N62661.AR 000042
NAVSTA NEWPORT RI
5090.3a

FINAL REPORT

UNDERGROUND STORAGE TANK - PLAN OF ACTION

CONTRACT NO. N62477-88-D-1448

DEPARTMENT OF THE NAVY

NAVAL EDUCATION TRAINING CENTER

AND

NAVAL UNDERWATER SYSTEMS CENTER

NEWPORT, RHODE ISLAND

FEBRUARY 1989

75

O'BRIEN & GERE ENGINEERS, INC
100 SUMMER STREET, SUITE 2904
BOSTON, MASSACHUSETTS 02110

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NEWPORT, RHODE ISLAND

TABLE OF CONTENTS

SECTION I - INTRODUCTION

1.01 - Background
1.02 - Regulations
A. Federal Regulations (40 CFR 280 and 281)
B. RIDEM Regulations (Regulations for Underground Storage Facilities used for Petroleum Products and Hazardous Materials)

SECTION II - EVALUATION OF ALTERNATIVES

2.01 - General
2.02 - UST Tightness Testing Methodologies
A. Quantitative Tightness Testing Methods
B. Qualitative Tightness Testing Methods
2.03 - UST Monitoring Methodologies
2.04 - Closure Methodologies
2.05 - Cost Analysis
A. Upgrading Systems
B. Removal and Replacement

SECTION III - RECOMMENDATIONS

3.01 - General
3.02 - UST Systems Previously Removed
3.03 - Recommended Actions and Implementation Schedule

SECTION IV - SUMMARY

TABLES

1 Federal Regulations 40 CFR 280 and 281 - Summary of Requirements for Upgrading Existing USTs

2 State of Rhode Island - Summary of Requirements for Upgrading Existing USTs

3 Range of Costs for Specific UST Upgrading Methods

4 Cost Analysis for Upgrading Existing USTs

5 Range of Costs for UST Removal and Replacement

TABLE OF CONTENTS

TABLES (cont.)

6 NETC Regulatory Requirements and Cost Estimates

7 NUSC Regulatory Requirements and Cost Estimates

8 NETC Recommended Actions and Cost Estimates

9 NUSC Recommended Actions and Cost Estimates

FIGURES

1 Final Approach - Federal Tank Requirements

2 Selecting Tank Tightness Testing

3 Permanent Closure Procedures for Underground Tanks

4 Typical Tank Tightness Testing Operation and Contingents

APPENDICES

A UNDERGROUND STORAGE TANK SCHEDULE - NETC

B UNDERGROUND STORAGE TANK SCHEDULE - NUSC

C UNDERGROUND STORAGE TANK LOCATIONS - (NETC & NUSC)

DEPARTMENT OF THE NAVY
NETC - NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK - PLAN OF ACTION
CONTRACT NO. N62472-88-D-1448

FINAL REPORT

SECTION I - INTRODUCTION

1.01 - BACKGROUND

During the months of October through December 1988, several site visits were performed to gather information regarding the underground storage tanks (USTs) at the Naval Education Training Center (NETC) and the Naval Underwater Systems Center (NUSC) in Newport, Rhode Island. An Interim Report was prepared in December 1988 which listed the USTs at each facility, including all available data and identified the location of each UST with respect to the closest building. Additionally, a summary of the hydrogeologic conditions at NETC and NUSC was prepared as it may impact the USTs.

As noted in the Interim Report, there were many unknowns listed on the UST database due to unavailable documentation regarding past activities and/or restricted access. Subsequent to the Interim Report Submittal, NAVFAC, NETC and NUSC personnel have provided additional data on some of the USTs. The new data, incorporating two additional USTs, has been incorporated into the NETC and NUSC Final Report database.

In accordance with the Scope of Work transmitted to NAVFAC on September 15, 1988, the Final Report includes the following:

- Assessment of Tank Tightness Testing Methodologies
- Assessment of Tank Monitoring Methodologies
- Assessment of Tank Closure Methodologies
- Preparation of Recommendations and Schedules Based on Evaluation of Alternative Technologies.
- Preparation of Cost Analysis with Respect to Alternative Technologies.

This report assumes that the USTs recommended for removal will be replaced with a state-of-the-art double wall UST. NAVFAC may want to consider whether replacement is necessary or not.

1.02 - REGULATIONS

Prior to assessing specific methodologies, a review of federal and state regulations was performed. It is noted that the Newport County Fire Codes were not included in this review; however, conversations with the Newport County Fire Marshal and the NETC Fire Chief indicate that the Rhode Island Department of Environmental Management (RIDEM) "Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials", as amended in April 1985, is the governing document.

The USTs at NETC and NUSC were separated into two groups:

- USTs regulated by RIDEM; and
- USTs regulated under the recently promulgated 40 CFR 280 and 281 federal requirements.

The following is a brief summary of the regulatory requirements:

A. Federal Regulations (40 CFR Parts 280 and 281)

Figure 1 identifies the phase-in approach for upgrading existing UST systems. In general, all existing UST systems must have corrosion protection devices, spill containment and overfill prevention devices, and leak detection devices installed prior to 1998. Table 1 summarizes the federal requirements for upgrading existing USTs. These devices are also required for any new UST system installed after 1988.

B. RIDEM Regulations (Regulations for Underground Storage Facilities used for Petroleum Products and Hazardous Materials)

The state regulations require specific tightness testing requirements with respect to the age of the UST. All UST systems were required to be tightness tested before 1987 (within two years of the effective date of the regulations) and periodically thereafter. Additionally, all UST systems were to be registered and have spill containment basins installed around the fill pipe prior to 1987. Table 2 identifies the requirements listed in the RIDEM regulations pertaining to upgrading for existing USTs.

Personnel at the Rhode Island Department of Environmental Management, Division of Groundwater Resources (RIDEM) have mentioned that UST Owners who have not complied with the tightness testing and spill containment installation schedule should implement these activities immediately. They have also noted that fines have not been levied for failure to comply with the timeframes stated.

According to personnel at RIDEM, the current Rhode Island UST Regulations are to be revised by July or August 1989. It is anticipated that these revisions will include a similar phase-in approach for upgrading existing USTs as identified in the federal regulations. We have assumed that the upgrading requirements listed in 40 CFR 280 and 281 will be inserted into the RIDEM Regulations. Careful review of the revised RIDEM regulations should be performed to verify the conclusions of this report.

New UST system installations are subject to similar leak detection, corrosion protection and spill/overfill protection systems as previously noted.

RIDEM UST regulations are generally more stringent than the federal regulations, especially with respect to spill containment for existing USTs. However, many of the NETC and NUSC USTs are exempt from Rhode Island's regulations. UST systems which are exempt from RIDEM Regulations (January 1989) are as follows:

1. USTs used for storing heating oil and serving a one, two or three family dwelling;

2. Farm or residential USTs storing less than 1,100 gallons of motor oil or heating oil for non-commercial purposes;

3. Septic tanks;

4. USTs in basements or cellars situated above the surface of the floor; or

5. USTs storing No. 4, No. 5 or No. 6 fuel oil;

6. USTs storing No. 2 fuel oil or jet propulsion fuel are not subject to RIDEM regulations for existing facility requirements, new facility requirements or facility modification requirements; however, registration, closure, leak response, etc. regulations are applicable.

7. USTs storing No. 2 fuel, No. 1 fuel or No. 1-D fuel for consumptive use and USTs storing waste oil are not required to have daily inventory records maintained, as described in Section 13, of RIDEM regulations.

Most of the USTs located at NETC and NUSC are specifically excluded from RIDEM regulations, and therefore fall under Federal Regulations 40 CFR 280 and 281. A review of the federal exclusions identified in 40 CFR 280 - Subpart A, Section 280.10 indicate that most of the USTs listed in the Interim Report database are subject to these regulations. Those that are excluded from both the Federal and State regulations are identified later.

SECTION II - EVALUATION OF ALTERNATIVES

2.01 - GENERAL

In accordance with the Scope of Work, an initial recommendation for each UST system was developed. These recommendations were based on a review of the Interim and Draft Reports submitted on December 6, 1988 and January 9,1989, respectively. The major factor for determining the initial recommendation was the age of the USTs.

An initial schedule for implementing the recommendations was also developed. Regulatory requirements were the major factor in determining the initial schedule.

After completing the initial recommendations and schedule, a review of the available methods for UST testing, monitoring and removal/replacement (closure) was performed. The methodologies discussed in the Naval Energy and Environmental Support Activity document 7024A, Leak Detection in Underground Storage Tanks, December 1986 and other sources were reviewed and are discussed below.

2.02 - UST TIGHTNESS TESTING METHODOLOGIES

The methods for UST tightness testing (tank and piping) system can generally be grouped into two categories:

- Quantitative UST Tightness Testing - Provides a rate of leakage.
- Qualitative UST Tightness Testing - Indicates if the system is leaking.

The following list identifies the specific UST tightness testing methods reviewed with respect to the USTs at the NETC and NUSC facilities:

A. Quantitative Tightness Testing Methods

1. Heath Consultant Petro-Tite Tank Testing System
2. Ainlay Tank Tegrity Testing
3. Hunter Leak Lokator
4. Horner Ezy-Chek
5. DWY Leak Sensor
6. Tank Auditor
7. Certi-Tec Testing
8. Mooney Tank Leak Detector
9. Helium Differential Pressure Testing
10. Arco HTC
11. Tank Audit Leak Computer

B. Qualitative Tightness Testing Methods

1. TRC Leak Detection Method
2. Leybold-Haraeus Helium Detector Ultratest M2
3. Smith and Denison Helium Test
4. Vacutect
5. Varian Leak Detector
6. Internal Inspection Methods: Ultrasonics, Magnetic Particle, X-Ray, Holiday Detector

2.03 - UST MONITORING METHODOLOGIES

UST monitoring methods, commonly referred to as leak or release detection methods, include various types of systems. These leak detection systems identify either a liquid or vapor release into the environment (ground water or soil surrounding the UST), interstitial space between the tank/piping inner

wall and secondary containment wall or in a containment vault surrounding the storage system. Some leak detection systems can be fabricated to detect specific liquid/vapor products while others generally detect between a solid/liquid phase, temperature differential, vacuum loss, or conductivity.

The leak detection systems reviewed were:

A. Leakage Alarm System for Pollutants (LASP)
B. Raychem Trace Tek Leak Sensing and Locating System
C. Pollulert and Leak-X Detection Systems
D. Model TRS-76 Leak Detection System
E. Warrick Controls - Series CMS and DMS Leak Detection Systems
F. Leak Sensor II Monitoring System
G. Petrometer Tank Leak Alarm
H. Tankgard Leak Detection System
I. FCI 785 Leak Detection System
J. Total Containment Leak Detection System
K. Comar Fiber Optic Leak Detector
L Leak Alert and Leak Rater Leak Detection Systems

It should be noted that UST liquid level measuring devices along with regular inventory control and UST tightness testing may be considered a leak detection method for specific USTs according to the federal regulations.

2.04 - CLOSURE METHODOLOGIES

Specific requirements for removal of UST systems are outlined in the federal regulations and the RIDEM regulations. For the purpose of this Draft Report, the more stringent requirements have been utilized when determining closure procedures for the UST systems recommended to be removed. Figure 3 outlines the procedures to follow for a closure operation in Rhode Island.

2.05 - COST ANALYSIS

A cost analysis was performed for each technologically acceptable action recommended to be implemented. The analysis included factors such as present and future regulatory requirements, present value, inflation effects, operation and maintenance costs, etc. over a ten year period. The ten year time frame was chosen as it directly relates to EPA's phase-in approach for upgrading existing UST systems.

Costs for technologically feasible upgrading systems and costs for removal and replacement of UST's were developed based on conversations with manufacturers representatives and information from similar projects previously conducted by O'Brien & Gere.

A. UPGRADING SYSTEMS

Table 3 identifies cost ranges previously experienced for specific upgrading systems, such as spill containment devices, overfill prevention systems, leak detection systems, etc. Costs for upgrading systems may vary significantly depending on factors, such as:

- Magnitude of project (larger scale projects tend to include economies of scale),
- Size and location of the UST,
- Contingent services (reference is made to Figure 4 which outlines typical contingent services associated with tank tightness testing),
- Employee training services,
- Capital expenditures for maintenance equipment, and
- Services involved with operation and maintenance of the upgrading system.

Federal and State regulations require upgrading of existing UST systems according to established timeframes. Using the cost ranges from Table 3 and the flow chart example on Figure 2, the total cost can be estimated for each year that an upgrading system is required to be installed. Table 4 has been prepared to identify the specific upgrading requirements and costs with respect to Option 1 or 2 on Figure 2 and also projects the costs over a ten year span (EPA's ten year phase-in).

Each UST system at NETC and NUSC has been subjected to a similar cost analysis based on the minimum federal and state regulations and utilizing the figures on Table 3. These costs are shown on Table 6 for UST's at NETC and Table 7 for UST's at NUSC. The following upgrading systems were used to develop the costs shown on Tables 6 and 7:

1. Leak Detection - These costs were based on installing up to 4 adjacent monitoring wells (for each UST) with a Pollulert (or equal) sensor inserted inside each well. The sensor probes are connected to a local alert panel. An average depth of fifteen feet was used for each monitoring well.

2. Corrosion Protection - These costs were based on installing an impressed current device on the steel UST and associated piping. The impressed current would also have to include nearby steel objects which may have an effect on the UST system. The costs include excavation above the UST and surface restoration.

3. Overfill Prevention - These costs were developed using the Veeder Root liquid level indicator with an audible alarm and inventory recording capabilities. These costs do not include excavation above the UST system which may or may not be necessary.

4. Spill Containment - These costs were based on installing an Emco Wheaton containment manhole around the existing fill pipe. The costs do not include additional containment manholes which may be required if other pipes extend to grade.

5. Tightness Testing - The costs for testing the UST's less than 20,000 gallons were based on using Heath Consultant's Petro-Tite testing system. These costs do not include preparation costs such as filling the UST, excavating above the UST, installing a monitoring well, etc. which may or may not be necessary to facilitate testing.

   For the NETC UST's larger than 20,000 gallons, the TRC Leak Detection testing system combined with internal inspection was used. These costs were based on installing up to eight well points for each UST and inserting freon detecting probes connected to a nearby alert panel.

B. REMOVAL AND REPLACEMENT

Table 5 presents a range of costs for removal and replacement of a UST system with respect to size. Although limited site investigations have been conducted relative to each UST system, subsurface information could not be accurately determined; therefore, costs associated with sheeting, dewatering, removal of contaminated soils, etc. as they relate to removal of the existing UST system could not be estimated.

Costs associated with replacement were based on installing a state-of-the-art double wall steel, fiberglass clad UST with overfill prevention, spill containment, interstitial leak detection, inventory recording and sacrificial anode cathodic protection.

Engineering costs with respect to design and inspection services can be expected to be an additional 20 to 30 percent of the total project cost.

The costs outlined on Tables 3 and 5 have been used when developing the recommended plan of action for each UST system.

SECTION III - RECOMMENDATIONS

3.01 - GENERAL

The recommended actions have been developed based on a review of the information presented in the database, an evaluation of feasible alternatives, a review of regulatory requirements, comments from NETC, NUSC and NAVFAC personnel and a cost analysis. Prior to implementing the recommended actions, NAVFAC, NETC and NUSC must register all UST systems with the RIDEM and the Newport County Fire Department. Registration information was not found for the following USTs:

Tank No.	Point ID	Location	Building
(NETC)			
70	176	CC	Bldg.84
71	177	CC	Bldg.7
72	178	MID	Bldg.71
73	179	CHI	Bldg.116
74	180	CP	Bldg.1921
(NUSC)			
B1120	103	NUSC	Bldg.112
B1171	102	NUSC	Bldg.1171
B1257	101	NUSC	Bldg.1257
B179-1	104	NUSC	Bldg.179
B179-2	105	NUSC	Bldg.179
B654	106	NUSC	Bldg.654
B124	107	NUSC	Bldg.124
B1258	108	NUSC	Bldg.1258

3.02 - UST SYSTEMS PREVIOUSLY REMOVED

As noted in the Interim Report, fifteen (15) USTs (thirteen at NETC and two at NUSC) were removed from the ground. Of these fifteen USTs, a closure certificate was available for only five USTs, specifically UST NO. 1 (Naval Hospital - Bldg. 49) and USTs No 30, 31, 32 and 33 (Coasters Harbor Island - Previous Bldg. 405).

It is recommended that documentation regarding closure activities for the other USTs previously removed be researched through NAVFAC, NETC, NUSC and RIDEM files or through interviews with employees who may have witnessed the

removals. This documentation should be kept on file in a readily available location within NETC and NUSC.

3.03 - RECOMMENDED ACTIONS AND IMPLEMENTATION SCHEDULE

The recommended actions presented on Tables 8 and 9 (NETC and NUSC respectively) have been determined to be technologically acceptable and cost effective for the UST systems at NETC and NUSC in Newport, Rhode Island. Each UST has been assigned a recommended plan of action and schedule for implementation which meets or exceeds the minimum federal and state requirements. Costs associated with inflation, continued tightness testing, O&M, etc. were the deciding factor when recommending to exceed federal or state requirements/deadlines.

There were 33 existing USTs evaluated at NETC and 8 existing USTs evaluated at NUSC. Of the 33 existing USTs at NETC, 16 are recommended to be removed and replaced, 14 are recommended to be upgraded before regulatory deadlines and 3 are recommended to be removed according to regulatory closure requirements. There were four NETC UST's exempt from current federal and state regulations, as noted on Table No. 6. Although no upgrading action is required, we recommend actions which we feel should be performed to determine if the UST systems are creating a potential environmental hazard.

Of the 8 UST's at NUSC, 3 are currently planned to be removed and replaced and 5 are recommended to be upgraded before regulatory deadlines. There was 1 UST at NUSC that was exempt from the leak detection requirements of the federal regulations, as noted on Table 7. For this reason we have not included costs associated with leak detection for this UST.

The basis for the recommendations presented on Tables 8 and 9 are as follows:

A. Removal and replacement was recommended for many USTs at NETC, rather than upgrading to allowable standards for the following reasons:

1. The majority of the USTs at NETC are steel tanks 40-50 years old without cathodic protection. These USTs would be considered to have a high potential for leakage.

2. Rhode Island's revised regulations may be more stringent than 40 CFR 280 and 281, thus potentially adding costs to those estimated.

3. The cost of removal and replacement, with operation and maintenance of a new UST system over a ten year period, was estimated to be less than upgrading to regulatory standards.

B. Those UST systems not recommended to be removed and replaced are recommended to be upgraded as soon as possible. Retrofitting these UST systems now vs. 1998 would save considerable costs associated with annual tightness testing and inflation as shown on Table 4. Note: Leak detection systems are required for all existing NETC and NUSC USTs prior to 1993 or earlier, depending on the age of the UST system (reference is made to Figure 1). The actual required dates are shown on Tables 6 and 7.

C. The TRC Leak Detection System is planned to be installed in the vicinity of the 282,000 gallon Tanks No. 9 and 10 (Coasters Harbor Island - Bldg. 71). These two tanks are exempt from both the federal and state UST regulations but we concur with the Navy's plans to install this system.

It should be noted that although the bedrock surroundings will not allow freon to migrate laterally, it can be detected in the groundwater if the USTs are leaking. Installation of this system would also allow for future testing of these UST's. It is also recommended that an internal inspection by qualified personnel be performed on the inner walls of the USTs to potentially identify cracks in the concrete.

D. It should be noted that NUSC USTs No. B179-1, B179-2 and B124 (point ID's 104, 105 and 107, respectively) are planned to be removed and replaced with a double wall system in 1989. We concur with the Navy's intentions to remove and replace these 3 USTs. Additionally, NETC UST No. 82 (Bldg. 1921) is also planned to be removed due to a leak. Proper Rhode Island closure procedures should be followed as summarized in Figure 3.

SECTION IV - SUMMARY

After reviewing the database from the Interim & Draft Reports and the governing state and federal underground storage tank (UST) regulations, initial recommended actions were developed for each UST. An evaluation of technologically acceptable methods for tightness testing, leak detection, inventory control, spill containment, corrosion protection and overfill prevention systems was then performed along with a cost analysis for the respective methodology. Subsequent to the evaluation, a plan of action was prepared to attain or exceed compliance with state and federal regulations. The recommended actions have been determined to be technologically acceptable and estimated to be cost effective.

Of the 46 USTs at NETC, 13 have previously been removed, 16 are recommended to be removed and replaced, 14 are recommended to be upgraded as soon as possible and 3 are recommended to be removed. The total cost projected for 1998 for upgrading, removing and replacing according to the recommendations is estimated at nearly 1.1 million for the UST's at NETC. The total cost projected for 1998 associated with upgrading to the minimum regulatory requirements is estimated at nearly $284,000 for the UST's at NETC.

Of the 10 USTs at NUSC, 2 have previously been removed and designs are currently underway for removal and replacement of 3 USTs. It is recommended that 4 UST's be upgraded as soon as possible. One tank is above ground in a containment vault. The total cost projected for 1998 for upgrading according to the recommendations is estimated at nearly $135,000 for the UST's at NUSC. The total cost projected for 1998 associated with upgrading to the minimum regulatory requirements is estimated at nearly $40,000 for the UST's at NUSC.

Tables

O'BRIEN & GERE

TABLE 1

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NEWPORT, RHODE ISLAND

FEDERAL REGULATIONS 40 CFR 280 and 281

SUMMARY OF REQUIREMENTS FOR UPGRADING EXISTING USTs*

REQUIREMENTS	DESCRIPTION OF AVAILABLE OPTIONS
Leak Detection	A. USTs 1. Monthly Monitoring** 2. Monthly Inventory and Annual Tightness Testing 3. Monthly Inventory and 5-year Tightness Testing (with Corrosion Protection and Spill/Overfill Prevention) B. Pressurized Piping 1. Automatic Flow Restrictor 2. Automatic Shutoff Device 3. Continuous Alarm System 4. Annual Tightness Testing 5. Monthly Monitoring (except tank gauging) C. Suction Piping 1. Monthly Monitoring (except tank gauging) 2. Tightness Testing Every 3 Years
Corrosion Protection	A. USTs 1. Coated and Cathodically Protected 2. Fiberglass 3. Steel Tank Clad with Fiberglass 4. Add Cathodic Protection 5. Interior Lining 6. Interior Lining and Cathodic Protection B. Piping 1. Coated and Cathodically Protected Steel 2. Fiberglass 3. Cathodically Protected Steel

*USTs = Underground Storage Tank

**Monthly Monitoring includes: Automatic Tank Gauging, Vapor Monitoring, Interstitial Monitoring, Groundwater Monitoring, Other Approved Methods

TABLE 1

FEDERAL REGULATIONS 40 CFR 280 and 281

SUMMARY OF REQUIREMENTS
FOR UPGRADING EXISTING USTs*

(CONTINUED)

REQUIREMENTS	DESCRIPTION OF AVAILABLE OPTIONS
Spill and Overfill Protection	A. USTs 1. Containment Basins And 2. Automatic Shutoff Device, or 3. Overfill Alarms, or 4. Ball Float Valves

TABLE 2

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NEWPORT, RHODE ISLAND

STATE OF RHODE ISLAND

SUMMARY OF REQUIREMENTS
FOR UPGRADING EXISTING UST'S*

DESCRIPTION OF REQUIREMENTS

1. All USTs with Remote Pumps must have line leak detection within 2 years of effecive date

2. All USTs must have spill containment basins around fill pipes within 2 years of effective date

3. USTs installed on or after 1/1/65 must be tightness tested within 2 years of effective date

4. USTs installed before 1/1/65 must be tightness tested within 1 year of effective date and annually thereafter

5. EXISTING FACILITY WITH KNOWN INSTALLATION DATES:

   Tightness test after installation every 5, 8, 11 and 13th year after 13 years annual testing

   OR

   Install a continuous monitoring system within 2 years of effective date and tightness test every 5 years. After 20 years, bi-annual tightness test

6. EXISTING FACILITY WITH UNKNOWN INSTALLATION DATES:

   Tightness test within 1 year of effective date and annually thereafter

*USTs = Underground Storage Tank and Associated Piping

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NEWPORT, RHODE ISLAND

TABLE NO. 3 - RANGE OF COSTS FOR SPECIFIC UST UPGRADING METHODS

	METHODS/DESCRIPTION	COST RANGE
I.	Quantitative Tank Tightness Testing (Does not include preparation costs)	
	A. Petro-Tite	$800 - $1,200/tank
	B. Ainlay Tank Tegrity Testing	$800 - $1,500/tank
	C. Hunter Leak Lokator	$500 - $800/tank
	D. Horner Ezy-Chek	$800 - $1,000/tank
	E. Tank Auditor	$600 - $900/tank
II.	Qualitative Tank Tightness Testing (Tanks No. 9 and 10)	
	A. TRC Leak Detection Method	$18,000 - $24,000 for Tanks No. 9 and No. 10 combined
	B. Internal Inspection (Cleaning to be done by others; Estimated @ $1,000-$2,000/tank)	$6,000 - $10,000 for Tanks No. 9 and No. 10 combined
III.	Monitoring (Leak Detection) Systems (Installed)/Tank	
	A. Leakage Alarm System for Pollutants (LASP)	$22,000 - $30,000
	B. Pollulert and Leak-X Detection Systems	$7,000 - $10,000
	C. Leak Sensor II Monitoring System	$9,000 - $12,000
IV.	Inventory Monitoring/Overfill Prevention Devices	
	A. Emco Wheaton Tank level Monitor	$4,000 - $6,000/tank
	B. Veeder Root	$5,000 - $7,000/tank
	C. Hersey Products	$5,000 - $7,000/tank
	D. Retrofit Fill Limiter (Ball Valve)	$1,000 - $3,000/tank (not recommended)

TABLE NO. 3 - RANGE OF COSTS FOR SPECIFIC UST UPGRADING METHODS

(CONTINUED)

METHODS/DESCRIPTION	COST RANGE
V. Cathodic Protection (Installed)	
A. Add Impressed Current	$7,000 - $9,000/tank
B. Interior Lining	$8,000 - $10,000/tank (Includes Cleaning)
(Based on an average size 10,000 gallon UST)	(Not recommended)
VI. Spill Containment Devices (Installed)	
A. Emco Wheaton Spill Containment Manhole for Fill Pipes	$3,000 - $6,000/tank
B. OPW Containment Manhole for Fill Pipes	$3,000 - $6,000/tank
C. Total Containment Manhole Chamber	$6,000 - $10,000/tank

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NEWPORT, RHODE ISLAND

TABLE NO. 4 - COST ANALYSIS FOR UPGRADING EXISTING UST's

TYPICAL EXAMPLE FOR 25+ YEAR OLD UST

Description of Services To Be Installed	YEARS (COST) 1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Estimated Totals
I. Option No. 1 Shown On Figure 2											
- Tightness Testing/Tank	$1,000	$1,050	$1,100	$1,155	$1,212	$1,272	$1,335	$1,400	$1,470	$1,543	$12,537
- Monthly Inventory Control/ Overfill Prevent.	$7,000	200*	200	200	200	200	200	200	200	200	$8,800
- Leak Detection	$9,000	100	100	100	100	100	100	100	100	100	$9,900
- Corrosion Protection	-	-	-	-	-	-	-	-	-	12,060**	$12,060
- Spill Containment	-	-	-	-	-	-	-	-	-	8,040**	$8,040
										Option No. 1 -	$51,337
II. Option No. 2 Shown On Figure 2											
- Tightness Testing	$1,000	-	-	-	-	$1,272	-	-	-	1,543	$3,815
- Monthly Inventory Control/ Overfill Prevent.	7,000	200	200	200	200	200	200	200	200	200	$8,800
- Leak Detection	$9,000	100	100	100	100	100	100	100	100	100	$9,900
- Corrosion Protection	$9,000	50	50	50	50	50	50	50	50	50	$9,450
- Spill Containment	$6,000	50	50	50	50	50	50	50	50	50	$6,450
										Option No. 2 -	$38,415

Monthly Inventory Control

Based on overfill prevention system with inventory capabilities.

* = Assumed yearly maintenance cost
** = Present cost (average) from Table No. 1 within 5% annual inflation compounded yearly

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY

NEWPORT, RHODE ISLAND

TABLE NO. 5 - RANGE OF COSTS FOR UST REMOVAL AND REPLACEMENT

TANK SIZE (GALLONS)	RANGE OF COSTS FOR REMOVAL*	RANGE OF COSTS FOR REPLACEMENT**
300 - 3,000	$ 3,500 - $ 5,500	$20,000 - $30,000
4,000 - 6,000	$ 4,500 - $ 7,500	$32,500 - $38,500
8,000 - 10,000	$ 8,500 - $10,000	$38,500 - $46,500
12,000 - 15,000	$11,500 - $14,000	$47,000 - $55,000
20,000	$15,000 - $17,500	$58,500 - $74,500

* These costs do not include sheeting or shoring, dewatering, utility interferences, or removal of contaminated soil if discovered.

** These costs are based on installing a double wall steel, fiberglass clad UST with spill and overfill protection, interstitial leak detection, liquid level inventory control monitoring and sacrificial anode cathodic protection.

NOTES:

1. Engineering costs for design and inspection services could add 20-30 percent to the total project cost.

2. Annual operation and maintenance costs are estimated to be $600/year.

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 6 - NETC REGULATORY REQUIREMENTS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	REQUIREMENTS	REGULATORY AGENCY	REGULATORY COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
1 (102)	CHI/NW^{C} (29)	Tightness Testing(1) Spill Containment	State [2] State [2]	ANNUAL 1987	1,000/yr 6,000 TOTAL:	12,600 6,450 $19,050	UST's used solely for heat on the premises are exempt from Federal Regs[1].
No. 1 (101)	NH (49)	-	-	-	-	-	UST Removed in 1988
No. 1 (107)	CC (7)	-	-	-	-	-	#5 & #6 Fuel oil exempt from State Regs. UST's used solely for heat on the premises are exempt from Federal Regs[1]. UST has overfill prot.
No. 2 (108)	CC (7)	-	-	-	-	-	#5 & #6 Fuel oil exempt from State Regs. UST's used solely for heat on the premises are exempt from Federal Regs[1]. UST has overfill prot.
No. 3 (109)	CC (7)	-	-	-	-	-	#5 & #6 Fuel oil exempt from State Regs. UST's used solely for heat on the premises are exempt from Federal Regs[1]. UST has overfill prot.

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 6 - NETC REGULATORY REQUIREMENTS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	REQUIREMENTS	REGULATORY AGENCY	REGULATORY COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No. 4 (110)	CC (7)	-	-	-	-	-	#5 & #6 Fuel oil exempt from State Regs. UST's used solely for heat on the premises are exempt from Federal Regs[1]. UST has overfill prot.
No. 5 (111)	CC (7)	-	-	-	-	-	#5 & #6 Fuel oil exempt from State Regs. UST's used solely for heat on the premises are exempt from Federal Regs[1]. UST has overfill prot.
No. 6 (112)	CC (7)	-	-	-	-	-	#5 & #6 Fuel oil exempt from State Regs. UST's used solely for heat on the premises are exempt from Federal Regs[1]. UST has overfill prot.

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 6 - NETC REGULATORY REQUIREMENTS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	REQUIREMENTS	REGULATORY AGENCY	REGULATORY COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No. 7 (113)	NH (A6)	-	-	-	-	-	#5 Fuel oil is exempt from State Regs. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No. 8 (114)	NH (A6)	-	-	-	-	-	#5 Fuel oil is exempt from State Regs. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No. 9 (115)	CHI (74)	-	-	-	-	-	Exempt from Federal Regs- Field Constructed Tank. Exempt from State Regs- #5 Fuel oil.
No.10 (116)	CHI (74)	-	-	-	-	-	Exempt from Federal Regs- Field Constructed Tank. Exempt from State Regs- #5 Fuel oil.
No.11 (117)	FA (T381)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 6 - NETC REGULATORY REQUIREMENTS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	REQUIREMENTS	REGULATORY AGENCY	REGULATORY COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.12 (118)	MID (369)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No.13 (119)	CP (W34)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No.14 (120)	CP (402)	-	-	-	-	-	UST Removed in 1987
No.15 (121)	CP (403)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No.16 (122)	CP (404)	-	-	-	-	-	UST Removed in 1986
No.17 (123)	CP (1112)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 6 - NETC REGULATORY REQUIREMENTS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	REQUIREMENTS	REGULATORY AGENCY	REGULATORY COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.18 (124)	CP (1900)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No.19 (125)	CP (1901)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No.20 (126)	CP (1903)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No.21 (127)	CP (340)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No.22 (128)	CP (1931)	-	-	-	-	-	UST Removed. Removal date is unknown.

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 6 - NETC REGULATORY REQUIREMENTS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	REQUIREMENTS	REGULATORY AGENCY	REGULATORY COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.23	CC	Leak Detection 2	Fed	1989	$ 9,000	$ 9,900	
(129)	(9A)	Corrosion Protection	Fed	1998	12,100	12,100	
		Overfill Prevention	Fed	1998	8,100	8,100	
		Tightness Testing	State	ANNUAL	1,000/yr	12,600	
		Spill Containment	State	1987	6,000	6,450	
					TOTAL:	$49,150	
No.24	CC	Leak Detection 3	Fed	1989	$ 9,000	$ 9,900	
(130)	(84)	Corrosion Protection	Fed	1998	12,100	12,100	
		Overfill Prevention	Fed	1998	8,100	8,100	
		Tightness Testing	State	ANNUAL	1,000/yr	12,600	
		Spill Containment	State	1987	6,000	6,450	
					TOTAL:	$49,150	
No.25	CC	Leak Detection 4	Fed	1989	$ 9,000	$ 9,900	
(131)	(84)	Corrosion Protection	Fed	1998	12,100	12,100	
		Overfill Prevention	Fed	1998	8,100	8,100	
		Tightness Testing	State	ANNUAL	1,000/yr	12,600	
		Spill Containment	State	1987	6,000	6,450	
					TOTAL:	$49,150	
No.26	CC	Leak Detection 5	Fed	1989	$ 9,000	$ 9,900	
(132)	(84)	Corrosion Protection	Fed	1998	12,100	12,100	
		Overfill Prevention	Fed	1998	8,100	8,100	
		Tightness Testing	State	ANNUAL	1,000/yr	12,600	
		Spill Containment	State	1987	6,000	6,450	
					TOTAL:	$49,150	

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 6 - NETC REGULATORY REQUIREMENTS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	REQUIREMENTS	REGULATORY AGENCY	REGULATORY COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.27 (133)	CHI (116)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No.28 (134)	MEL (48)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No.29 (135)	FA (402)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs[1].
No.30 (136)	CHI (405)	-	-	-	-	-	UST Removed in 1987
No.31 (137)	CHI (405)	-	-	-	-	-	UST Removed in 1987
No.32 (138)	CHI (405)	-	-	-	-	-	UST Removed in 1987

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 6 - NETC REGULATORY REQUIREMENTS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	REQUIREMENTS	REGULATORY AGENCY	REGULATORY COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.33 (139)	CHI (405)	-	-	-	-	-	UST Removed in 1987
No.64 (170)	MID (71)	-	-	-	-	-	UST exempt from Federal Regs- Field Constructed. UST exempt from State Regs- #5 Fuel oil.
No.65 (171)	MEL (115)	-	-	-	-	-	UST Removed in 1987
No.66 (172)	CP (1121)	-	-	-	-	-	UST Removed in 1972
No.67 (173)	CP (1920)	-	-	-	-	-	UST Removed in 1987
No.68 (174)	CP (302)	-	-	-	-	-	UST Removed in 1980
No.69 (175)	CP (304)	-	-	-	-	-	UST Removed in 1974
No.70 (176)	CC (84)	Leak Detection	Fed	1989	$ 9,000	$ 9,900	
		Corrosion Protection	Fed	1998	12,100	12,100	
		Overfill Prevention	Fed	1998	8,100	8,100	
		Tightness Testing	State	ANNUAL	1,000/yr	12,600	
		Spill Containment	State	1987	6,000	6,450	
					TOTAL:	$49,150	

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 6 - NETC REGULATORY REQUIREMENTS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	REQUIREMENTS	REGULATORY AGENCY	REGULATORY COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.71 (177)	CC (7)	Tightness Testing [1] Spill Containment	State State	ANNUAL 1987	1,000/yr 6,000 TOTAL:	12,600 6,450 $19,050	UST's used solely for heat on the premises are exempt from Federal Regs [1].
No.72 (178)	MID (71)	-	-	-	-	-	UST exempt from Federal Regs- Field constructed. UST exempt from State Regs- #5 Fuel oil.
No.73 (179)	CHI (116)	-	-	-	-	-	#2 Fuel oil is exempt from State Regulations. UST's used solely for heat on the premises are exempt from Federal Regs [1].
No.74 (180)	CP (1921)	-	-	-	-	-	UST is inactive and is planned to be removed in 1989.

1. Reference is made to Table 1 for a summary of the Federal UST requirements.

2. Reference is made to Table 2 for a summary of the State of Rhode Island UST requirements.

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 7 - NUSC REGULATORY REQUIREMENTS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	REQUIREMENTS	REGULATORY AGENCY	REGULATORY COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.B112	NUSC	Leak Detection	-	-	-	-	UST's used solely for emergency generators are exempt from Subpact D of 40 CFR 280; i.e., leak detection. Epoxy coating is not sufficient for corrosion protection.
(103)	(112)	Corrosion Protection	Fed[1]	1998	$12,100	$12,100	
		Overfill Prevention	Fed[1]	1998	8,100	8,100	
		Tightness Testing	State[2]	ANNUAL	800/yr	10,100	
		Spill Containment	State[2]	1987	6,000	6,450	
					TOTAL:	$36,750	
No.B1171	NUSC	-	-	-	-	-	UST's used solely for heat on the premises are exempt from Federal Regs[1].
(102)	(1171)						
No.B1257	NUSC	-	-	-	-	-	#2 Fuel oil exempt form State Regulations.
(101)	(1257)						
							UST's used solely for heat on the premises are exempt from Federal Regs[1].
No.NUSC#3	NUSC	-	-	-	-	-	UST Removed. Removal date unknown.
(109)	(119)						
No.NUSC#4	NUSC	-	-	-	-	-	UST Removed. Removal date unknown.
(110)	(119)						

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL UNDERWATER SYSTEMS CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 7 - NUSC REGULATORY REQUIREMENTS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	REQUIREMENTS	REGULATORY AGENCY	REGULATORY COMPLETION DATA	COMPLETION DATA COST	1998 PROJECTED COST	REMARKS
No.B179-1 (104)	NUSC (179)	-	-	-	-	-	UST is planned to be removed & replaced in 1989.
No.B179-2 (105)	NUSC (179)	-	-	-	-	-	UST is planned to be removed & replaced in 1989.
No.B654 (106)	NUSC (654)	-	-	-	-	-	Tank is aboveground in a containment vault.
No.B124 (107)	NUSC (124)	-	-	-	-	-	UST is planned to be removed & replaced in 1989.
No.B1258 (108)	NUSC (1258)	-	-	-	-	-	Suspect UST used for heat. Information not available to verify.

1. Reference is made to Table 1 for a summary of the Federal UST requirements.

2. Reference is made to Table 2 for a summary of the State of Rhode Island UST requirements.

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 8 - NETC RECOMMENDED ACTIONS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	RECOMMENDED ACTION(S)	RECOMMENDED COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No. 1 (102)	CHI/NWC (29)	Remove and Replace[1]	1989	$35,500	$43,715	Potential savings of $5,785.
No. 1 (101)	NH (49)	-	-	-	-	UST Removed.
No. 1 (107)	CC (7)	Leak Detection	1989	$ 9,000	$ 9,900	UST has overfill pre-
		Corrosion Protection	1990	9,450	9,850	vention.
		Spill Containment	1990	6,300	6,700	Savings of $14,390.
		Tightness Testing	89&90	2,460	4,060	
				TOTAL:	$30,510	
No. 2 (108)	CC (7)	Leak Detection	1989	$ 9,000	$ 9,900	UST has overfill pre-
		Corrosion Protection	1990	9,450	9,850	vention.
		Spill Containment	1990	6,300	6,700	Savings of $14,390.
		Tightness Testing	89&90	2,460	4,060	
				TOTAL:	$30,510	
No. 3 (109)	CC (7)	Leak Detection	1989	$ 9,000	$ 9,900	UST has overfill pre-
		Corrosion Protection	1990	9,450	9,850	vention.
		Spill Containment	1990	6,300	6,700	Savings of $14,390.
		Tightness Testing	89&90	2,460	4,060	
				TOTAL:	$30,510	
No. 4 (110)	CC (7)	Leak Detection	1989	$ 9,000	$ 9,900	UST has overfill pre-
		Corrosion Protection	1990	9,450	9,850	vention.
		Spill Containment	1990	6,300	6,700	Savings of $14,390.
		Tightness Testing	89&90	2,460	4,060	
				TOTAL:	$30,510	

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 8 - NETC RECOMMENDED ACTIONS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	RECOMMENDED ACTION(S)	RECOMMENDED COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No. 5	CC	Leak Detection	1989	$ 9,000	$ 9,900	UST has overfill pre-
(111)	(7)	Corrosion Protection	1990	9,450	9,850	vention.
		Spill Containment	1990	6,300	6,700	Savings of $14,390.
		Tightness Testing	89&90	2,460	4,060	
				TOTAL:	$30,510	
No. 6	CC	Leak Detection	1989	$ 9,000	$ 9,900	UST has overfill pre-
(112)	(7)	Corrosion Protection	1990	9,450	9,850	vention.
		Spill Containment	1990	6,300	6,700	Savings of $14,390.
		Tightness Testing	89&90	2,460	4,060	
				TOTAL:	$30,510	
No. 7	NH	Leak Detection	1989	$ 9,000	$ 9,900	UST has overfill pre-
(113)	(A6)	Corrosion Protection	1990	9,450	9,850	vention.
		Spill Containment	1990	6,300	6,700	Savings of $14,740.
		Tightness Testing	89&90	2,460	4,060	
				TOTAL:	$30,510	
No. 8	NH	Leak Detection	1989	$ 9,000	$ 9,900	UST has overfill pre-
(114)	(A6)	Corrosion Protection	1990	9,450	9,850	vention.
		Spill Containment	1990	6,300	6,700	Savings of $14,740.
		Tightness Testing	89&90	2,460	4,060	
				TOTAL:	$30,510	
No. 9	CHI	Leak Detection (TRC)	1989	$12,000	$22,800	Leak Detection 1998 pro-
(115)	(74)	Internal Inspection	1989	5,000	15,000	jected cost estimates
		Spill Containment	1989	6,000	6,450	$100/month maintenance
				TOTAL:	$44,250	over 9 years.
						Internal Inspection every
						4 years.
						UST is suspected of
						leaking.

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 8 - NETC RECOMMENDED ACTIONS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	RECOMMENDED ACTION(S)	RECOMMENDED COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.10 (116)	CHI (74)	Leak Detection (TRC) Internal Inspection Spill Containment	1989 1989 1989	$12,000 5,000 6,000 TOTAL:	$22,800 15,000 6,450 $44,250	Leak Detection 1998 projected cost estimates $100/month maintenance over 9 years. Internal Inspection every 4 years. UST is suspected of leaking.
No.11 (117)	FA (T381)	Remove and Replace	1989	$27,000	$35,215	Savings of $15,385.
No.12 (118)	MID (369)	Remove and Replace	1989	$35,500	$43,715	Savings of $7,235.
No.13 (119)	CP (W34)	Remove and Replace	1989	$35,500	$43,715	Savings of $6,885.
No.14 (120)	MID (369)	-	-	-	-	UST Removed.
No.15 (121)	CP (403)	Remove and Replace	1989	$30,000	$38,215	Savings of $12,385.
No.16 (122)	CP (404)	-	-	-	-	UST Removed.
No.17 (123)	CP (1112)	Remove and Replace	1989	$35,500	$43,715	Savings of $6,885.

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 8 - NETC RECOMMENDED ACTIONS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	RECOMMENDED ACTION(S)	RECOMMENDED COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.18 (124)	CP (1900)	Remove and Replace	1989	$27,000	$35,215	Savings of $15,385.
No.19 (125)	CP (1901)	Remove and Replace	1989	$27,000	$35,215	Savings of $15,385.
No.20 (126)	CP (1903)	Remove and Replace	1989	$28,500	$36,715	Savings of $13,885.
No.21 (127)	CP (340)	Remove and Replace	1989	$23,500	$31,160	Savings of $19,440.
No.22 (128)	CP (1931)	-	-	-	-	UST Removed.
No.23 (129)	CP (9A)	Remove and Replace	1989	$23,500	$31,160	Savings of $17,990.
No.24 (130)	CC (84)	Leak Detection	1989	$ 9,000	$ 9,900	Estimated cost of removal and replacement in 1989 projected to 1998 is $49,715.
		Corrosion Protection	1989	9,000	9,450	
		Overfill Prevention	1989	7,000	8,800	
		Spill Containment	1989	6,000	6,450	
		Tightness Testing	93&98		2,755	Has already been leak tested in 1989.
				TOTAL:	$37,355	
No.25 (131)	CC (84)	Leak Detection	1989	$ 9,000	$ 9,900	Estimated cost of removal and replacement in 1989 projected to 1998 is $49,715.
		Corrosion Protection	1989	9,000	9,450	
		Overfill Prevention	1989	7,000	8,800	
		Spill Containment	1989	6,000	6,450	
		Tightness Testing	93&98		2,755	Has already been leak tested in 1989.
				TOTAL:	$37,355	

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 8 - NETC RECOMMENDED ACTIONS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	RECOMMENDED ACTION(S)	RECOMMENDED COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.26 (132)	CC (84)	Leak Detection	1989	$ 9,000	$ 9,900	Estimated cost of removal and replacement in 1989 projected to 1998 is $38,215.
		Corrosion Protection	1989	9,000	9,450	
		Overfill Prevention	1989	7,000	8,800	
		Spill Containment	1989	6,000	6,450	
		Tightness Testing	93&98		2,755	Has already been leak tested in 1989.
				TOTAL:	$37,355	
No.27 (133)	CHI (116)	Remove and Replace	1989	$27,000	$35,215	Savings of $15,385.
No.28 (134)	MEL (48)	Remove and Replace	1989	$23,500	$31,160	Savings of $19,440.
No.29 (135)	FA (402)	Remove and Replace	1989	$27,000	$35,215	Savings of $15,385.
No.30 (136)	CHI (405)	-	-	-	-	UST Removed.
No.31 (137)	CHI (405)	-	-	-	-	UST Removed.
No.32 (138)	CHI (405)	-	-	-	-	UST Removed.
No.33 (139)	CHI (405)	-	-	-	-	UST Removed.
No.64 (170)	MID (71)	Remove	1989	$30,000	$30,000	Estimated for a concrete 60,000 gallon UST.

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 8 - NETC RECOMMENDED ACTIONS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	RECOMMENDED ACTION(S)	RECOMMENDED COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.65 (171)	MEL (115)	-	-	-	-	UST Removed.
No.66 (172)	CP (1121)	-	-	-	-	UST Removed.
No.67 (173)	CP (1920)	-	-	-	-	UST Removed.
No.68 (174)	CP (302)	-	-	-	-	UST Removed.
No.69 (175)	CP (304)	-	-	-	-	UST Removed.
No.70 (176)	CC (84)	Leak Detection	1989	$ 9,000	$ 9,900	Estimated cost of removal and replacement in 1989 projected to 1998 is $49,715.
		Corrosion Protection	1989	9,000	9,450	
		Overfill Prevention	1989	7,000	8,800	
		Spill Containment	1989	6,000	6,450	
		Tightness Testing	93&98		2,755	Has already been leak tested in 1989.
				TOTAL:	$37,355	
No.71 (177)	CC (7)	Remove and Replace	1989	$27,000	$35,215	Savings of $13,395.
No.72 (178)	MID (71)	Remove	1989	$ 4,000	$ 4,000	

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 8 - NETC RECOMMENDED ACTIONS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	RECOMMENDED ACTION(S)	RECOMMENDED COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.73 (179)	CHI (116)	Remove and Replace	1989	$27,000	$35,215	Savings of $16,975.
No.74 (180)	CP (1921)	-	-	-	-	Planned to be removed.

1. Reference is made to Table 5 for UST Removal and Replacement Costs.

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL UNDERWATER SYSTEMS CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 9 - NUSC RECOMMENDED ACTIONS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	RECOMMENDED ACTION(S)	RECOMMENDED COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.B112	NUSC	Corrosion Protection	1989	$ 9,000	$ 9,450	Savings of $9,040 if work is performed before regulatory deadlines.
(103)	(112)	Overfill Prevention	1989	7,000	8,800	
		Spill Containment	1989	6,000	6,450	
		Tightness Testing	89,93,&98	3,010	3,010	Estimated cost of removal and replacement in 1989 projected to 1988 is $31,160.
				TOTAL:	$27,710	
No.B1171	NUSC	Leak Detection	1989	$ 9,000	$ 9,900	
		Corrosion Protection	1989	9,000	9,450	
(102)	(1171)	Overfill Prevention	1989	7,000	8,800	
		Spill Containment	1989	6,000	6,450	
		Tightness Testing	89,93,&98	3,010	3,010	
				TOTAL:	$37,610	
No.B1257	NUSC	Leak Detection	1989	$ 9,000	$ 9,900	Estimated cost of removal and replacment in 1989 projected to 1998 is $38,215.
(101)	(1257)	Overfill Prevention	1989	2,000	8,800	
		Spill Containment	1989	6,000	6,450	
		Tightness Testing	89,93,&98	3,755	3,755	Savings of $8,645 if work is performed before regulatory deadlines.
				TOTAL:	$28,905	
No.NUSC#3 (109)	NUSC (119)	-		-		UST Removed.
No.NUSC#4 (110)	NUSC (119)	-		-		UST Removed.

UNDERGROUND STORAGE TANK - PLAN OF ACTION
DEPARTMENT OF THE NAVY
NAVAL UNDERWATER SYSTEMS CENTER - NEWPORT, RHODE ISLAND

TABLE NO. 9 - NUSC RECOMMENDED ACTIONS AND COST ESTIMATES

TANK NO. (Pt.-ID)	LOCATION (Bldg)	RECOMMENDED ACTION(S)	RECOMMENDED COMPLETION DATE	COMPLETION DATE COST	1998 PROJECTED COST	REMARKS
No.B179-1 (104)	NUSC (179)	-		-		Planned to be removed and replaced.
No.B179-2 (105)	NUSC (179)	-		-		Planned to be removed and replaced.
No.B654 (106)	NUSC (654)	-		-		Tank is aboveground.
No.B1258 (108)	NUSC (1258)	Leak Detection	1989	$ 9,000	$ 9,900	Estimated cost of removal and replacment in 1989 projected to 1998 is $54,215.
		Corrosion Protection	1989	9,000	9,450	
		Overfill Prevention	1989	7,000	8,800	
		Spill Containment	1989	6,000	6,450	
		Tightness Testing	89,93&98	3,755	3,755	Savings of $10,795 if work is performed before regulatory deadlines.
				TOTAL:	$38,355	

Figures

O'BRIEN & GERE

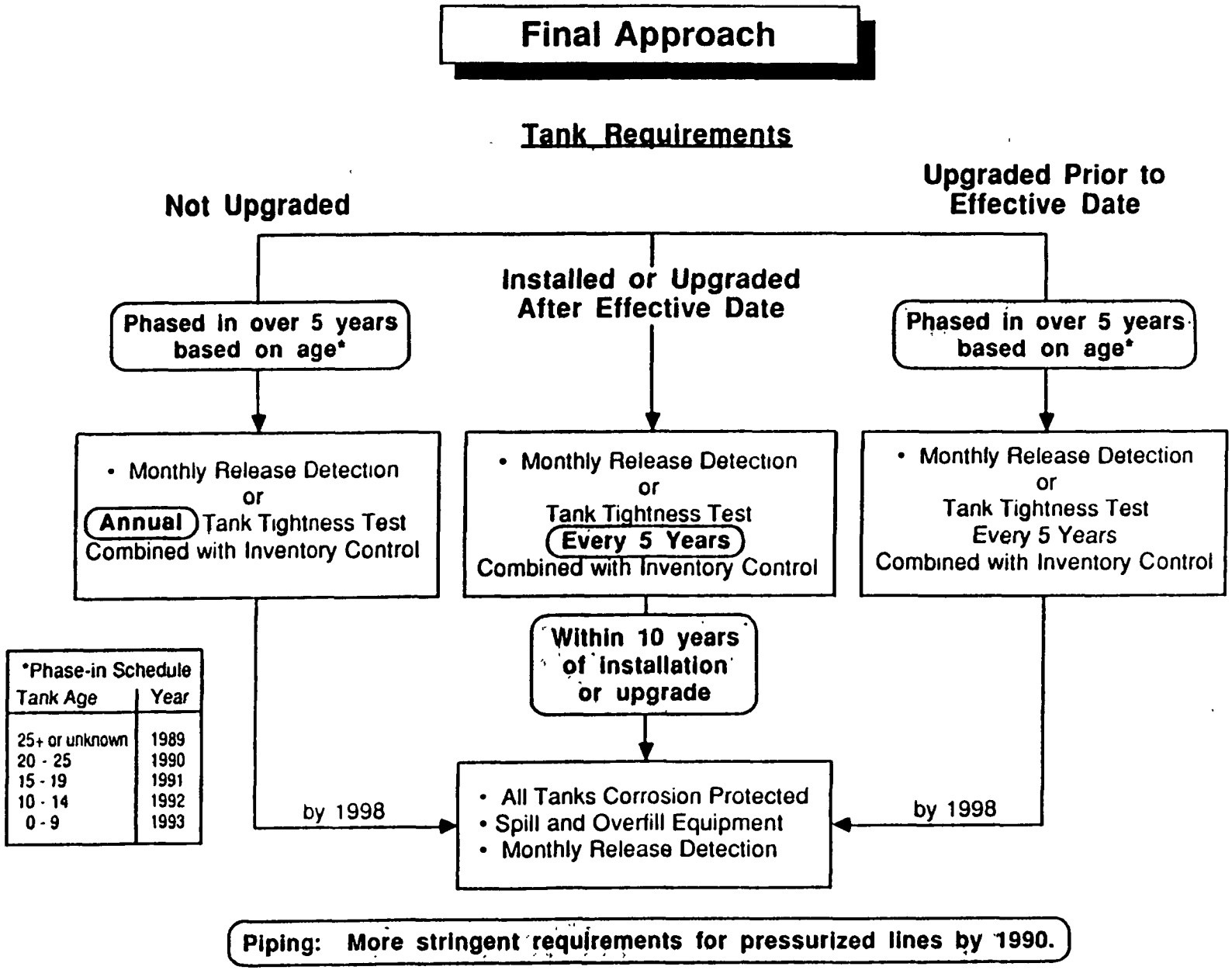


FIGURE 1

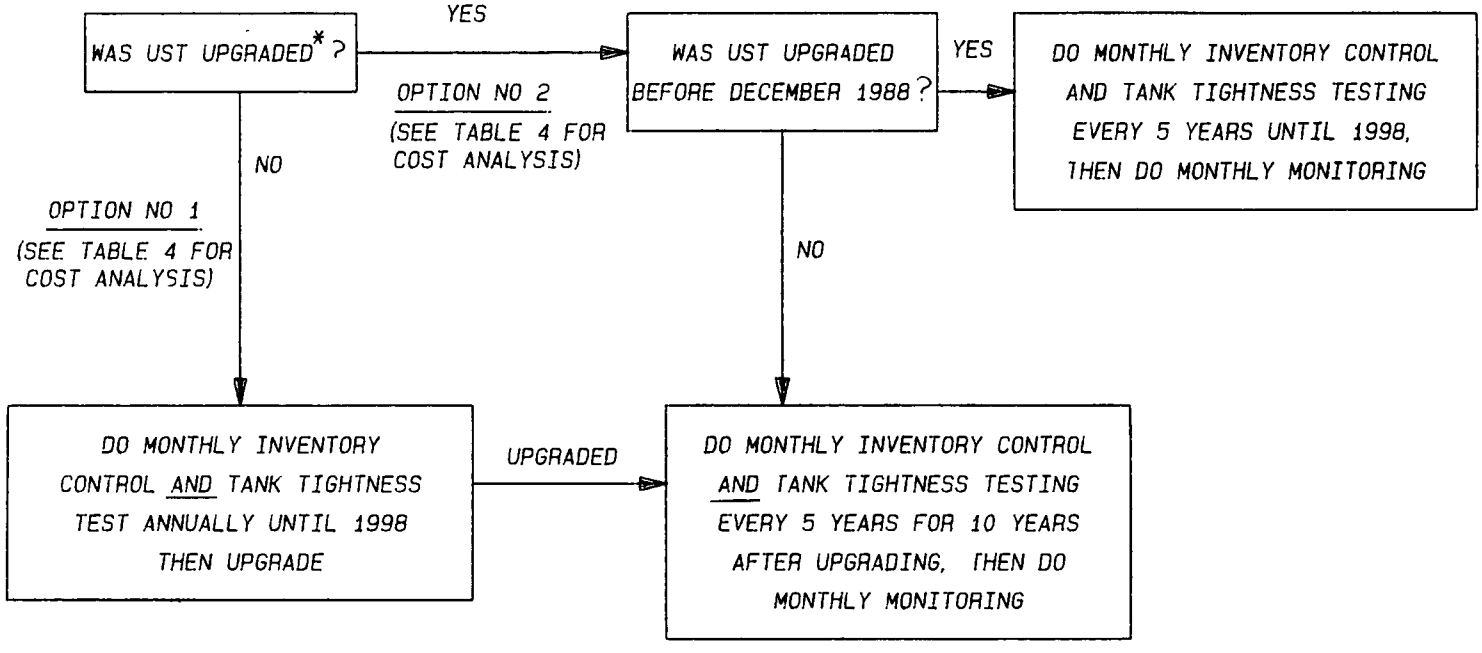
BILLING CODE 6560-50-C

FIGURE 2

CHOOSING TANK TIGHTNESS TESTING

(40 CFR 280 AND 281)

IF MONTHLY MONITORING IS NOT USED FOR EXISTING USTs, A COMBINATION OF PERIODIC TANK TIGHTNESS TESTS AND MONTHLY INVENTORY CONTROL MUST BE USED.



* UPGRADED MEANS, HAVING CORROSION PROTECTION AND SPILL/ OVERFILL PREVENTION

O'BRIEN & GERE

STATE OF RHODE ISLAND

FIGURE 3

O'BRIEN & GERE

PERMANENT CLOSURE PROCEDURES FOR UNDERGROUND TANKS

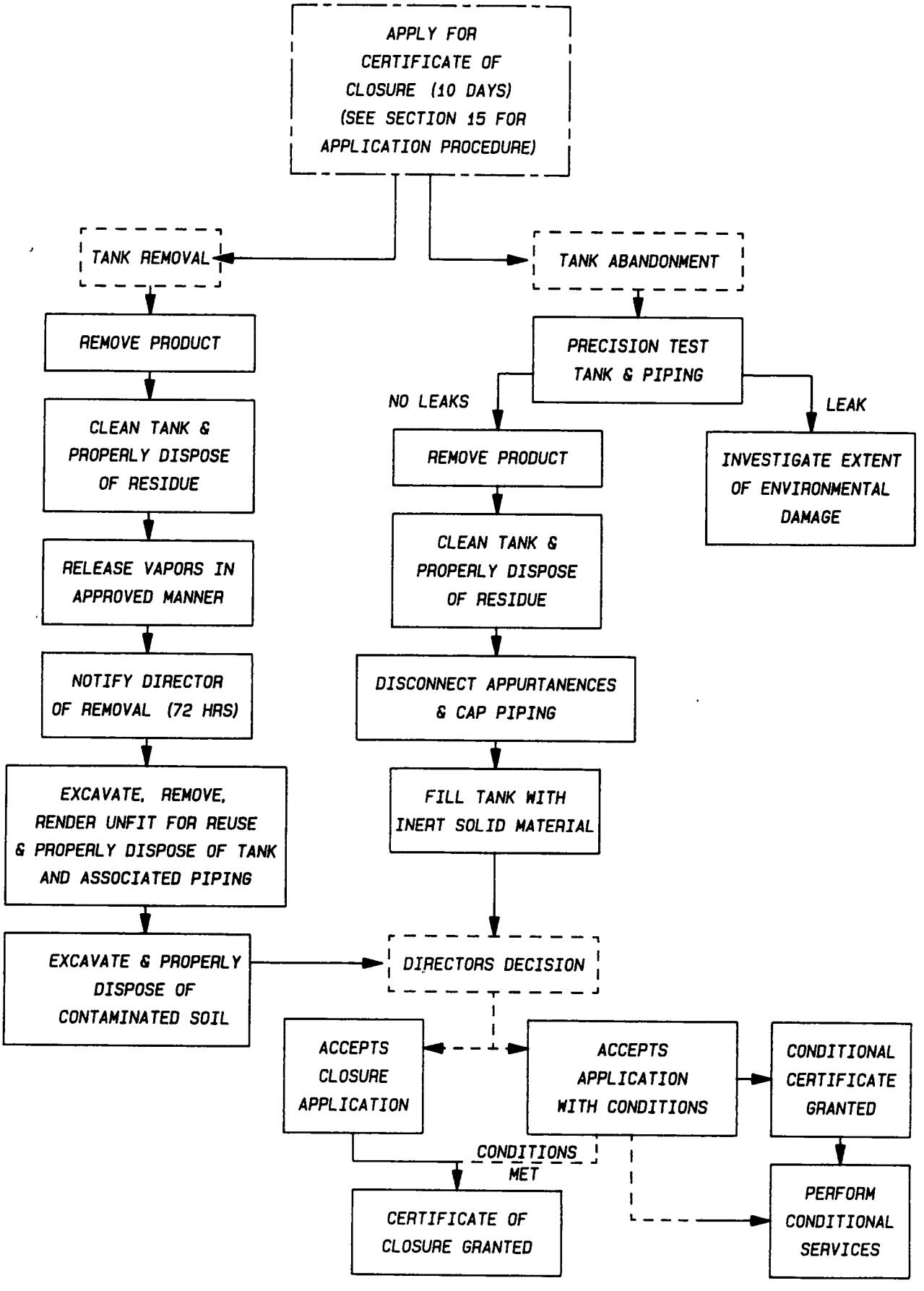
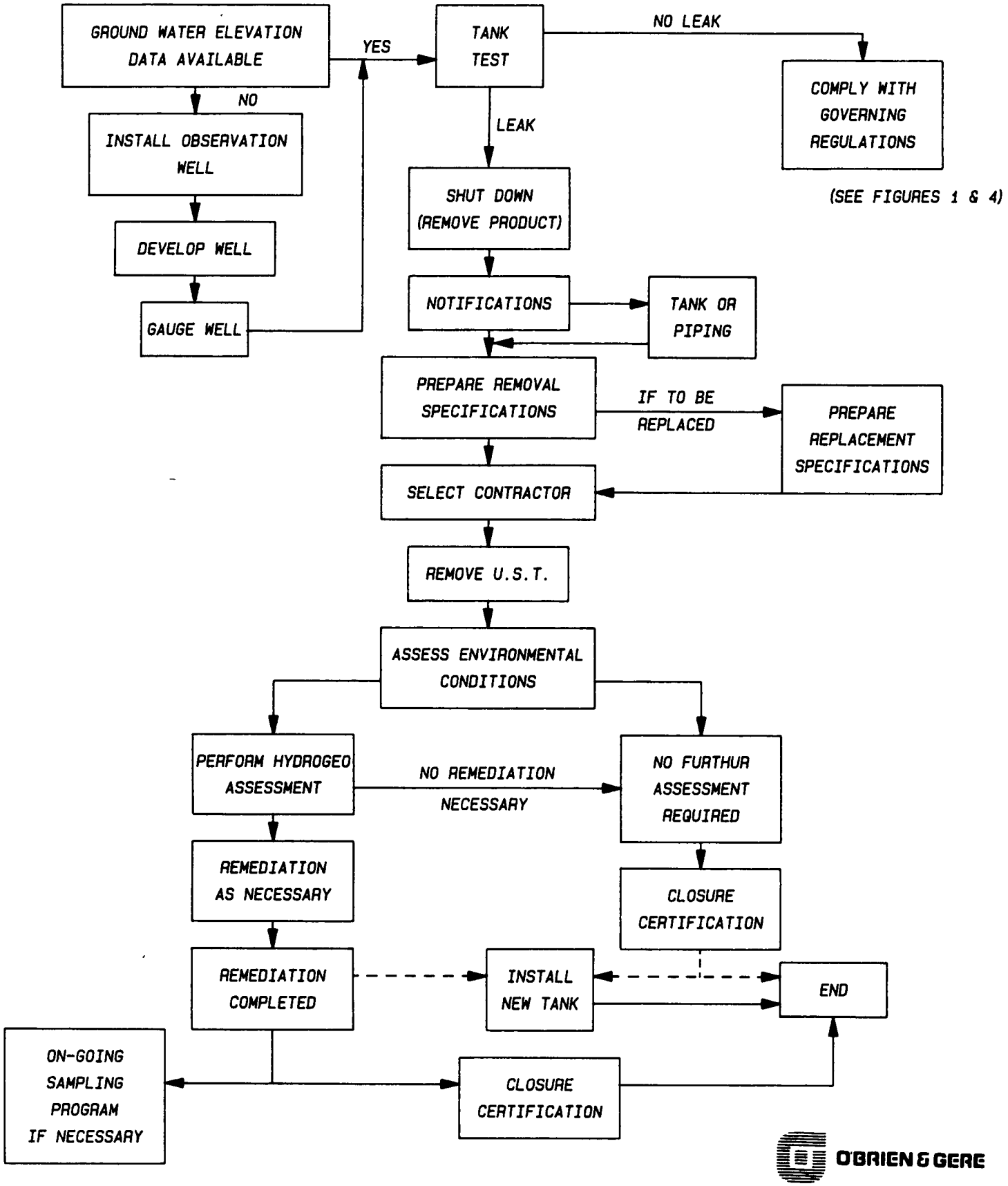


FIGURE 4

TYPICAL TANK TIGHTNESS TESTING OPERATION WITH CONTINGENTS



O'BRIEN & GERE

Appendices

APPENDIX A - UNDERGROUND STORAGE TANK SCHEDULE - NETC

NAVAL EDUCATION TRAINING CENTER (NETC) - NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK (UST) SCHEDULE
NETC UST IDENTIFICATION NUMBER

1962.014

TANK INFORMATION	TANK 1	TANK 1	TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	TANK 6	TANK 7	TANK 8	TANK 9	TANK 10
A. GENERAL DATA												
1 NAVFAC Point-ID	102	101	107	108	109	110	111	112	113	114	115	116
2 Location	CHI/NWC	NH	CC	CC	CC	CC	CC	CC	NH	NH	CHI	CHI
3 Building	Bldg. 29	Bldg. 49	Bldg. 74	Bldg. 74	Bldg. 74	Bldg. 74	Bldg. 74	Bldg. 74	Bldg. 86	Bldg. 86	Bldg. 74	Bldg. 74
4 Substance Stored	Diesel	Gasoline	#5 or #6 Fuel Oil	#5 or #6 Fuel Oil	#5 or #6 Fuel Oil	#5 or #6 Fuel Oil	#5 or #6 Fuel Oil	#5 or #6 Fuel Oil	#5 Fuel Oil	#5 Fuel Oil	#5 Fuel Oil	#5 Fuel Oil
5 Previous Integrity Test (Y/N)	Y	N	N	N	N	N	N	N	N	N	N	N
6 Contingency Plan	1990	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
7 Date Installed/Age (Yrs)	~~1967~~/21	1941	1945/43	1942/44	1942/44	1954/34	1959/29	1959/29	1967/21	1967/21	1917/71	1917/71
8 Active/Inact/Removed (A/I/Rem)	A	Rem1988	A	A	A	A	A	A	A	A	A	A
9 Substance Use	Heat	-	Heat	Heat	Heat	Heat	Heat	Heat	Heat	Heat	Heat	Heat
B. TANK DATA												
1 Above or Below Ground (A/B)	B	B	B	B	B	B	B	B	B	B	B	B
2 Capacity (gal)	3,000	2,000	20,000	20,000	20,000	20,000	20,000	20,000	~~20,000~~ 15000	~~20,000~~ 15,000	282,000	282,000
3 Est. Diameter (ft)	5'-4"	-	10'-6"	10'-6"	10'-6"	10'-6"	10'-6"	10'-6"	10'-6"	10'-6"	Ht.=10'	Ht.=10'
4 Est. Length (ft)	18'-0"	-	31'-6"	31'-6"	31'-6"	31'-6"	31'-6"	31'-6"	31'-6"	31'-6"	55'x70'	55'x70'
5 Material of Construction	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Concrete	Concrete
6 Internal Protection (Y/N/UNK)	UNK	-	Y	N	N	N	N	N	UNK	UNK	N	N
7 External Protection (Y/N/UNK)	UNK	-	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK
8 Cathodic Protection (Y/N)	N	-	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)
9 Secondary Containment (Y/N)	N	-	N	N	N	N	N	N	N	N	N	N
10 Leak Detection (Y/N)	N	-	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)
11 Gauges	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	N	N
12 Overfill Protection (Y/N)	N	-	Y	Y	Y	Y	Y	Y	Y	Y	N	N
13 Leaks/Repairs (Y/N/#) or NR	NR	-	Y/1	N	N	N	N	N	NR	NR	N	N
14 Water in Tank (in./N/UNK)	0.5"	-	UNK	UNK	UNK	UNK	UNK	UNK	N	UNK	N	N
C. PIPING DATA												
1 Above or Below Ground (A/B)	B	-	B	B	B	B	B	B	A=50% B=50%	A=50% B=50%	B	B
2 Material of Construction	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
3 Date of Installation	1967	1941	1943	1943	1943	1943	1943	1943	1967	1967	1917	1917
4 Protection (Y/N)	N	-	N	N	N	N	N	N	N	N	N	N
5 Secondary Contain. (Vlt=Vault)	N	-	N	N	N	N	N	N	N	N	N	N
6 System Design (gravity/pressure/suction)	Suct.	-	Suct.	Suct.	Suct.	Suct.	Suct.	Suct.	Suct.	Suct.	Suct.	Suct.
7 Leaks/Repairs Since Install.	NR	-	NR	NR	NR	NR	NR	NP	NR	NP	1-1988	1-1988
D. ENVIRONMENTAL DATA												
1 Soil Type (Surrounding Tank)	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Bedrock	Bedrock
2 Est. Depth to G.W. (ft)	15-20	15-20	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	+20	+20
3 Distance to Nearest Water Supply Well (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 Distance to Nearest Surface Water (ft)	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500
E. TANK TESTING CONDITIONS												
1 Access Ports (Dia/#)	3"/1	-	4"/1	4"/1	4"/1	4"/1	4"/1	4"/1	6"/1	6"/1	10"	10"
- Drop Tube (Y/N)	N	-	Y	Y	Y	Y	Y	Y	Y	Y	N	N
- Straight into Tank (Y/N)	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2 No. of Manways	1	-	1	1	1	1	1	1	1	1	1	1
- Diameter (in)	18"	-	24"	24"	24"	24"	24"	24"	24"	24"	12"	24"
- Accessable (Y/N)	Y	-	N	N	N	N	N	N	Y	Y	Y	Y
3 Depth to Top of Tank	41.5"	-	36"	36"	36"	36"	36"	36"	21"	21"	0	0
4 Power Supply w/n 100' (Y/N)	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

CHI=Coasters Harbor Island NWC=Naval War NH=Naval Hospital CC=Coddington Cove NR=No Record

NAVAL EDUCATION TRAINING CENTER (NETC) - NEWPORT, RHODE ISLAND

UNDERGROUND STORAGE TANK (UST) SCHEDULE

NETC UST IDENTIFICATION NUMBER

	TANK INFORMATION	TANK 11	TANK 12	TANK 13	TANK 14	TANK 15	TANK 16	TANK 17	TANK 18	TANK 19	TANK 20	TANK 21	TANK 22
A.	GENERAL DATA												
1	NAVFAC Point-ID	117	118	119	120	121	122	123	124	125	126	127	128
2	Location	FA	MID	CP	CP	CP	CP	CP	CP	CP	CP	CP	CP
3	Building	Bd. T381	Bdg. 369	Bdg. W34	Bdg. 402	Bdg. 403	Bdg. 404	Bd. 1112	Bd. 1700	Bd. 1901	Bd. 1903	Bdg. 340	Bg. 1931
4	Substance Stored	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil
5	Previous Integrity Test (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N
6	Contingency Plan	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
7	Date Installed/Age (Yrs)	1940/48	1965/23	1941/47	1942	1942/46	1942	1942/46	1942/46	1942/46	1942/46	1942/46	1943
8	Active/Inact/Removed (A/I/Rem)	A	A	A	Rem1987	A	Rem1986	A	A	A	A	A	Rem-UNK
9	Substance Use	Heat	Heat	Heat	-	Heat	-	Heat	Heat	Heat	Heat	Heat	-
B.	TANK DATA												
1	Above or Below Ground (A/B)	B	B	B	B	B	B	B	B	B	B	B	B
2	Capacity (gal)	1,000	3,000	3,000	3,000	2,000	2,000	3,000	1,000	1,000	1,500	500	500
3	Est. Diameter (ft)	4'-0"	5'-4"	5'-4"	-	5'-4"	-	5'-4"	4'-0"	4'-0"	4'-0"	4'-0"	-
4	Est. Length (ft)	10'-8"	18"-0"	18"-0"	-	12'-0"	-	18"-0"	10'-8"	10'-8"	9'-0"	5'-5"	-
5	Material of Construction	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
6	Internal Protection (Y/N/UNK)	UNK	UNK	UNK	-	UNK	-	UNK	UNK	UNK	UNK	UNK	-
7	External Protection (Y/N/UNK)	UNK	UNK	UNK	-	UNK	-	UNK	UNK	UNK	UNK	Y/Paint	-
8	Cathodic Protection (Y/N)	N	(N)	(N)	-	N	-	(N)	N	N	N	N	-
9	Secondary Containment (Y/N)	N	N	N	-	N	-	N	N	N	N	N	-
10	Leak Detection (Y/N)	N	(N)	(N)	-	N	-	(N)	N	N	N	N	-
11	Gauges	N	N	N	-	N	-	N	N	N	N	N	-
12	Overfill Protection (Y/N)	N	N	N	-	N	-	N	N	N	N	N	-
13	Leaks/Repairs (Y/N/#) or NR	NR	NR	NR	-	NR	-	NR	NR	NR	NR	NR	-
14	Water in Tank (in or N)	1/4"	1-1/2"	1/4"	-	1/2"	-	1"	1 1/4"	N/A	N/A	3-1/4"	-
C.	PIPING DATA												
1	Above or Below Ground (A/B)	B	B	B	-	B	-	B	B	B	B	B	-
2	Material of Construction	Steel	Steel	Steel	-	Steel	-	Steel	Steel	Steel	Steel	Steel	-
3	Date of Installation	1940	1965	1941	-	1942	-	1942	1942	1942	1942	1942	-
4	Protection (Y/N)	UNK	UNK	UNK	-	UNK	-	UNK	UNK	UNK	UNK	UNK	-
5	Secondary Contain. (Vlt=Vault)	N	N	N	-	N	-	N	N	N	N	N	-
6	System Design (gravity/pressure/suction)	Suct.	Suct.	Suct.	-	Suct.	-	Suct.	Suct.	Suct.	Suct.	Suct.	-
7	Leaks/Repairs Since Install.	NR	NR	NR	-	NR	-	NR	NR	NR	NR	NR	-
D.	ENVIRONMENTAL DATA												
1	Soil Type	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel
2	Est. Depth to G.W. (ft)	10-15	15-20	6-10	10-15	10-15	10-15	15-20	10-15	10-15	10-15	6-10	10-15
3	Distance to Nearest Water Supply Well (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	Distance to Nearest Surface Water (ft)	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500
E.	TANK TESTING CONDITIONS												
1	Access Ports (Dia/#)	3"/1	2.5"/2	2"/1	-	2"/2	-	3"/1	2"/2	3"/2	2"/2	2"/2	-
	- Drop Tube (Y/N)	N	Y	N	-	Y	-	N	Y	N	N	N	-
	- Straight into Tank (Y/N)	Y	Y	Y	-	Y	-	Y	Y	N	N	Y	-
2	No. of Manways	0	1	0	-	0	-	0	0	0	0	0	-
	- Diameter (in)	-	18"	-	-	-	-	-	-	-	-	-	-
	- Accessable (Y/N)	-	Y	-	-	-	-	-	-	-	-	-	-
3	Depth to Top of Tank	35"	23"	10"	-	29"	-	13-1/2"	42-1/2"	UNK	UNK	15"	-
4	Power Supply w/n 100' (Y/N)	Y	Y	Y	-	Y	-	Y	Y	Y	Y	Y	-

FA=Fort Adams MID=Midway CP=Coddington Point NP=No Record

NAVAL EDUCATION TRAINING CENTER (NETC) - NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK (UST) SCHEDULE
NETC UST IDENTIFICATION NUMBER

	TANK INFORMATION	TANK 23	TANK 24	TANK 25	TANK 26	TANK 27	TANK 28	TANK 29	TANK 30	TANK 31	TANK 32	TANK 33	TANK 64
A.	GENERAL DATA												
1	NAVFAC Point-ID	129	130	131	132	133	134	135	136	137	138	139	170
2	Location	CC AA	CC AA	CC AA	CC AA	CHI	MEL	FA	CHI	CHI	CHI	CHI	MID
3	Building	Bldg. 3A	Bldg. 84	Bldg. 84	Bldg. 84	Bdg. 116	Bldg. 48	Bdg. 402	Bdg. 405	Bdg. 405	Bdg. 405	Bdg. 405	Bdg. 71
4	Substance Stored	Waste Mtr Oil	Unlead. Gasol.	Unlead. Gasol.	Diesel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	Gasol.	Gasol.	Gasol.	Waste Oil	#5 Fuel Oil
5	Previous Integrity Test (Y/N)	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	N
6	Contingency Plan	Y	Y 1991	Y 1991	Y 1991	Y	Y	Y	Y	Y	Y	Y	Y
7	Date Installed/Age (Yrs)	1949/39	~~1962/26~~	1962/26	~~1962/26~~	1941/47	1942/46	1949/39	1960	1960	1973	1960	1943
8	Active/Inact/Removed (A/I/Rem)	A	A	A	A	A	A	A	Rem1987	Rem1987	Rem1987	Rem1987	(I)
9	Substance Use	Wst Stor	Mtr Fuel	Mtr Fuel	Mtr Fuel	Heat	Heat	Heat	-	-	-	-	Heat
B.	TANK DATA												
1	Above or Below Ground (A/B)	B	12000	B	B	B	B	B	B	B	B	B	B
2	Capacity (gal)	500	~~5,000~~	5,000	2,000	1,000	500	1,000	10,000	10,000	20,000	500	60,000
3	Est. Diameter (ft)	4'-0"	8'-0"	8'-0"	5'-4"	4'-0"	4'-0"	4'-0"	-	-	-	-	-
4	Est. Length (ft)	9'-0"	13'-4"	13'-4"	12'-0"	10'-8"	9'-0"	10'-8"	-	-	-	-	-
5	Material of Construction	Steel	~~Steel~~ FRP	~~Steel~~ FRP	~~Steel~~ FRP	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Concrete
6	Internal Protection (Y/N/UNK)	UNK	UNK	UNK	UNK	UNK	UNK	UNK	-	-	-	-	N
7	External Protection (Y/N/UNK)	UNK	UNK	UNK	UNK	UNK	UNK	UNK	-	-	-	-	N
8	Cathodic Protection (Y/N)	N	N	N	N	N	N	N	-	-	-	-	N
9	Secondary Containment (Y/N)	N	N	N	N	N	N	N	-	-	-	-	N
10	Leak Detection (Y/N)	N	N	N	N	N	N	N	-	-	-	-	N
11	Gauges	N	N	N	N	N	N	N	-	-	-	-	N
12	Overfill Protection (Y/N)	N	N	N	N	N	N	N	-	-	-	-	N
13	Leaks/Repairs (Y/N/#/NR)	NR	NR	NR	NR	NR	NR	NR	-	-	-	-	N
14	Water in Tank (in or N)	UNK	UNK	UNK	3-1/2"	UNK	1/6"	N	-	-	-	-	3"
C.	PIPING DATA												
1	Above or Below Ground (A/B)	B	B	B	B	B	B	B	-	-	-	-	A
2	Material of Construction	Steel	Steel	Steel	Steel	Steel	Steel	Steel	-	-	-	-	Steel
3	Date of Installation	1949	1962	1962	1962	1941	1942	1949	-	-	-	-	1943
4	Protection (Y/N)	N	N	N	N	N	UNK	UNK	-	-	-	-	N
5	Secondary Contain. (Vlt=Vault)	N	N	N	N	N	N	N	-	-	-	-	Vlt.
6	System Design (gravity/pressure/suction)	Grav.	Suct.	Suct.	Suct.	Suct.	Suct.	Suct.	-	-	-	-	Suct.
7	Leaks/Repairs Since Install.	NR	NR	NR	NR	NR	NR	NR	-	-	-	-	NR
D.	ENVIRONMENTAL DATA	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel
1	Soil Type												
2	Est. Depth to G.W. (ft)	10-15'	10-15'	10-15'	10-15'	6-10'	10-15'	15-20'	15-20'	15-20	15-20	15-20	10-15
3	Distance to Nearest Water Supply Well (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	Distance to Nearest Surface Water (ft) (M=Miles)	500-.5M	500-.5M	500-.5M	500-.5M	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500
E.	TANK TESTING CONDITIONS												
1	Access Ports (Dia/#)	2"/2	4"/1	4"/1	3"/1	2"/1	2"/2	3"/1	-	-	-	-	6"/2
	- Drop Tube (Y/N)	Y	Y	Y	Y	N	Y	N	-	-	-	-	N
	- Straight into Tank (Y/N)	N	Y	Y	Y	N	Y	Y	-	-	-	-	Y
2	No. of Manways	0	0	0	0	0	0	0	-	-	-	-	2
	- Diameter (in)	-	-	-	-	-	-	-	-	-	-	-	2.5x2.5'
	- Accessable (Y/N)	-	-	-	-	-	-	-	-	-	-	-	Y
3	Depth to Top of Tank	19-1/2"	UNK	UNK	36"	UNK	20-1/2"	30-1/2"	-	-	-	-	N/A
4	Power Supply w/n 100' (Y/N)	Y	Y	Y	Y	Y	Y	Y	-	-	-	-	Y

CC=Coddington Cove CHI=Coasters Harbor Island MEL=Melville FA=Fort Adams NR=No Record

NAVAL EDUCATION TRAINING CENTER (NETC) - NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK (UST) SCHEDULE
NETC UST IDENTIFICATION NUMBER

* TANK INFORMATION	TANK 65	TANK 66	TANK 67	TANK 68	TANK 69	TANK 70	TANK 71	TANK 72	TANK 73	TANK 74	1277A	1277B
A. GENERAL DATA												
1 NAVFAC Point-ID	171	172	173	174	175	176	177	178	179	180		
2 Location	MEL	CP	CP	CP	CP	CC	CC	MID	CHI.	CP		
3 Building	Bdg.115	Bg.1121	Bg.1920	Bdg.302	Bdg.304	Bdg.84	Bldg.7	Bdg.71	Bdg.116	Bd.1921	Bd 1277	Bd 1277
4 Substance Stored	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	Gaso-line	Diesel	#5 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	#2 Fuel Oil	AFFF
5 Previous Integrity Test (Y/N)	N	N	N	N	N	Y	N	N	N	N		
6 Contingency Plan	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
7 Date Installed/Age (Yrs)	1942	1942	1942	1942	1942	1962/26	UNK	1943	1987/1	UNK	1991	1991
8 Active/Inact/Removed (A/I/Rem)	Rem1987	Rem1972	Rem1987	Rem1980	Rem1974	A	A	I	A	I		
9 Substance Use	-	-	-	-	-	Mtr Fuel will remove	Heat	Heat	Heat	-		
B. TANK DATA												
1 Above or Below Ground (A/B)	B	B	B	B	B	B	B	A	B	B		
2 Capacity (gal)	1,000	3,000	1,000	3,000	1,000	5,000	1,000	1,000	1,000	500	12,000	4000
3 Est. Diameter (ft)	-	-	-	-	-	8'-0"	4'-0"	Ht.-6'	4'-0"	4'-0"		
4 Est. Length (ft)	-	-	-	-	-	13'-0"	10'-0"	14'-3'	10'-0"	3'-0"		
5 Material of Construction	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Conc.	Steel	Steel	double walled Steel	fiberglass
6 Internal Protection (Y/N/UNK)	-	-	-	-	-	UNK	UNK	N	UNK	N		
7 External Protection (Y/N/UNK)	-	-	-	-	-	UNK	UNK	UNK	UNK	N		
8 Cathodic Protection (Y/N)	-	-	-	-	-	N	N	N	UNK	N		
9 Secondary Containment (Y/N)	-	-	-	-	-	N	N	N	UNK	N		
10 Leak Detection (Y/N)	-	-	-	-	-	N	N	N	UNK	N		
11 Gauges	-	-	-	-	-	N	N	N	UNK	N		
12 Overfill Protection (Y/N)	-	-	-	-	-	N	N	N	UNK	N		
13 Leaks/Repairs (Y/N/#)	-	-	-	-	-	NR	NR	NR	NR	Y/1		
14 Water in Tank (in or N)	-	-	-	-	-	3-1/4"	1/2"	N	UNK	UNK		
C. PIPING DATA												
1 Above or Below Ground (A/B)	-	-	-	-	-	B	B	A	B	B		
2 Material of Construction	-	-	-	-	-	Steel	Steel	Steel	Steel	Steel		
3 Date of Installation	-	-	-	-	-	1962	UNK	1943	1987	UNK		
4 Protection (Y/N)	-	-	-	-	-	N	N	N	UNK	N		
5 Secondary Contain. (Vlt-Vault)	-	-	-	-	-	N	N	Vlt.	UNK	N		
6 System Design (gravity/pressure/suction)	-	-	-	-	-	Suct.	Suct.	Suct.	Suct.	UNK		
7 Leaks/Repairs Since Install.	-	-	-	-	-	NR	NR	NR	NR	NR		
D. ENVIRONMENTAL DATA												
1 Soil Type	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel		
2 Est. Depth to G.W. (ft)	10-15	10-15	10-15	10-15	10-15	10-15	6-10	10-15	6-10	6-10		
3 Distance to Nearest Water Supply Well (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
4 Distance to Nearest Surface Water (ft) (M=Miles)	0-500	0-500	0-500	0-500	0-500	500-.5M	0-500	0-500	0-500	0-500		
E. TANK TESTING CONDITIONS												
1 Access Ports (Dia/#)	-	-	-	-	-	4"/1	2"/2	6'/1	2"/1	UNK		
- Drop Tube (Y/N)	-	-	-	-	-	Y	N	N	UNK	UNK		
- Straight into Tank (Y/N)	-	-	-	-	-	Y	Y	Y	UNK	UNK		
2 No. of Manways	-	-	-	-	-	0	0	2	0	0		
- Diameter (in)	-	-	-	-	-	-	-	18"	-	-		
- Accessable (Y/N)	-	-	-	-	-	-	-	Y	-	-		
3 Depth to Top of Tank	-	-	-	-	-	UNK	31"	-	UNK	UNK		
4 Power Supply w/n 100' (Y/N)	-	-	-	-	-	Y	Y	Y	Y	Y		

MEL=Mellville CP=Coddington Point NUSC=Naval Underwater Systems Center CC=Coddington Cove MID=Midway NR=No Record

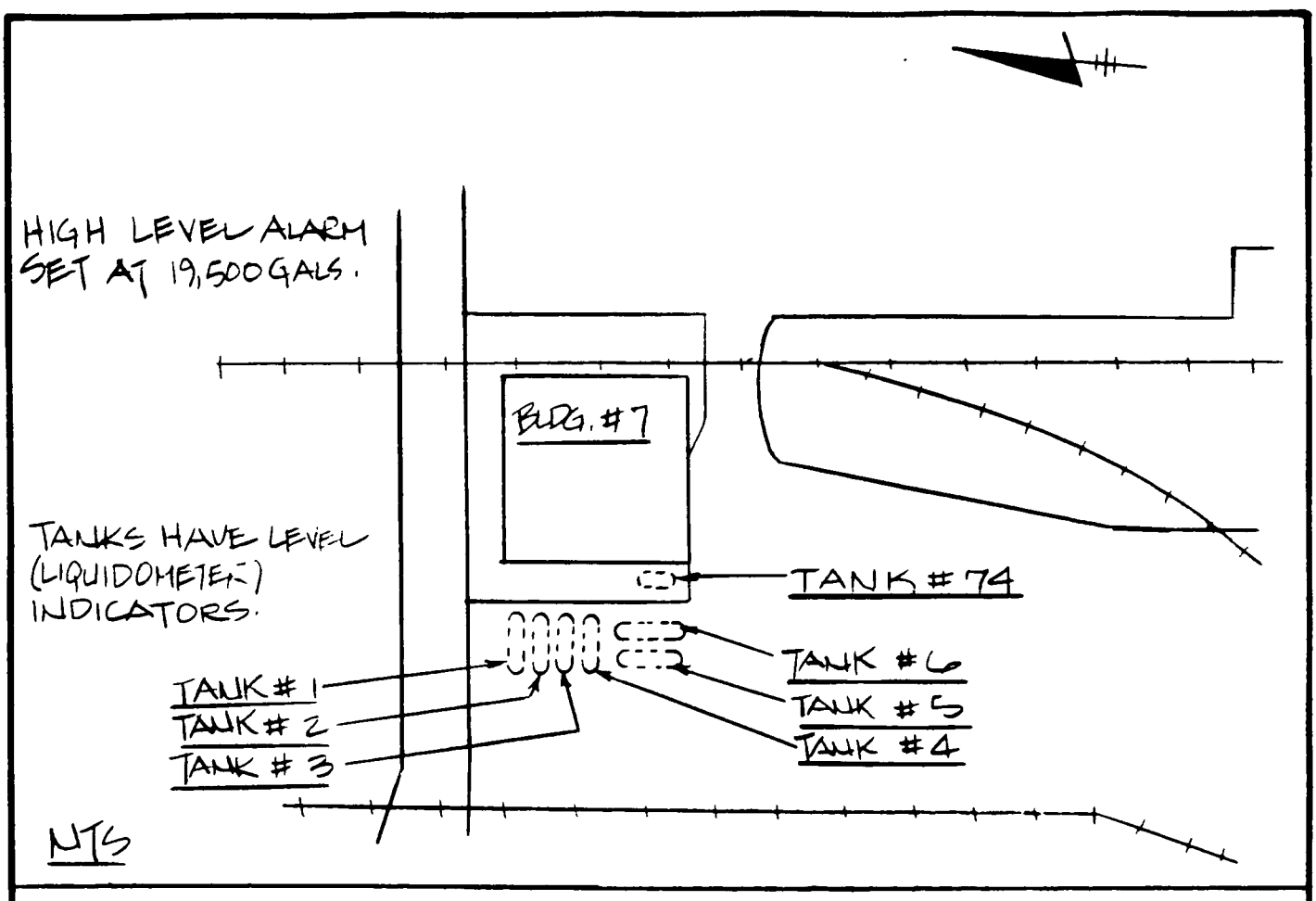
APPENDIX B - UNDERGROUND STORAGE TANK SCHEDULE - NUSC

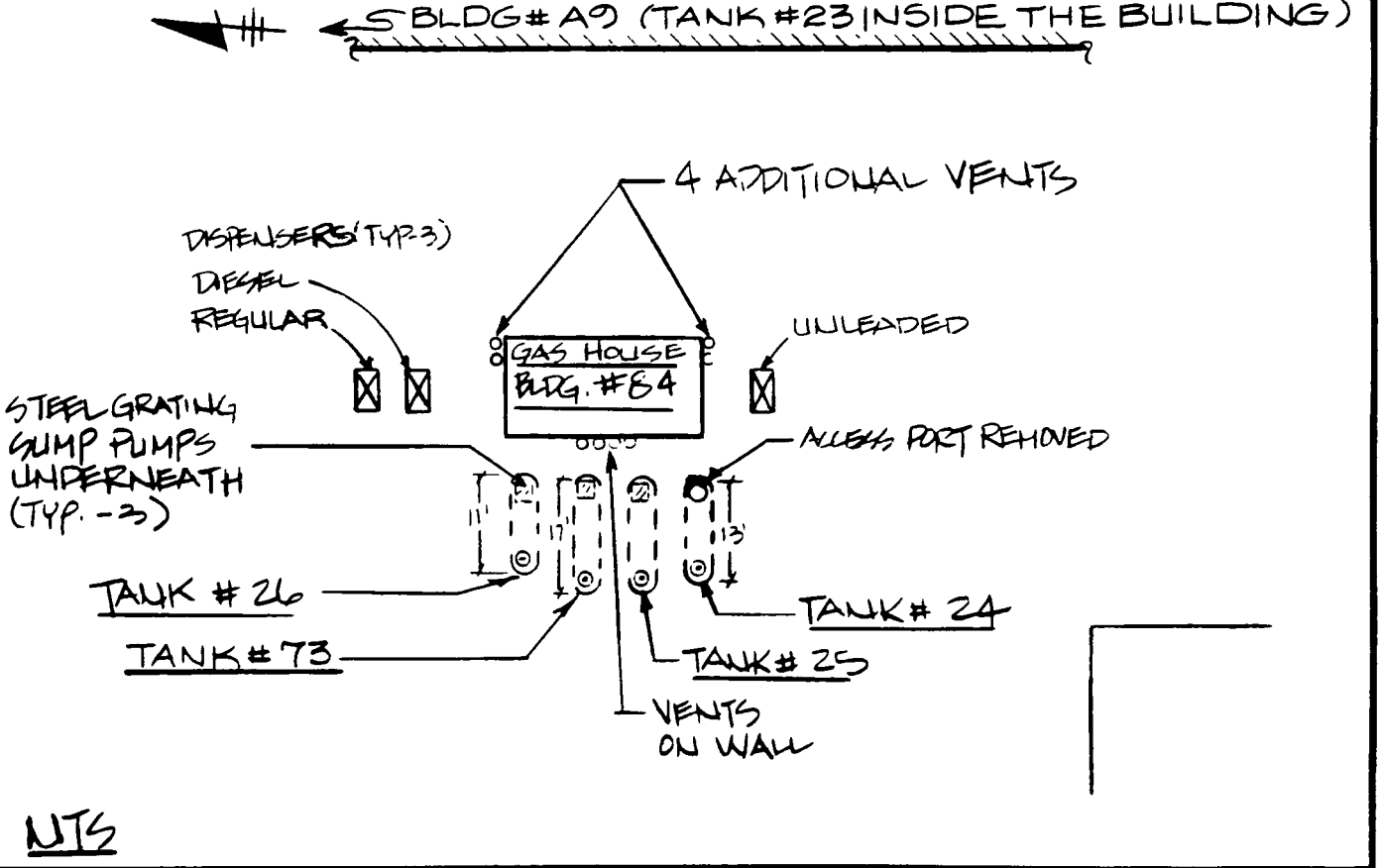
NAVAL UNDERWATER SYSTEMS CENTER (NUSC) - NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK (UST) SCHEDULE
NUSC UST IDENTIFICATION NUMBER

	TANK INFORMATION	B112	B1171	B1257	NUSC#3	NUSC#4	B1794	B179-2	B654	B124	B1258
A.	GENERAL DATA										
1	NAVFAC Point-ID	103	102	101	109	110	104	105	106	107	108
2	Location	NUSC	NUSC	NUSC	NUSC	NUSC	NUSC	NUSC	NUSC	NUSC	NUSC
3	Building	Bdg.112	Bg.1171	Bg.1257	Bdg.119	Bdg.119	Bdg.179	Bdg.179	Bdg.654	Bdg.124	Bd.1258
4	Substance Stored	Diesel	Diesel	#2 Fuel Oil	Diesel	Diesel	Otto Fuel	Cyanide & Water	Otto Fuel	Otto Fuel	Diesel
5	Previous Integrity Test (Y/N)	N	N	N	N	N	N	N	N	N	N
6	Contingency Plan	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
7	Date Installed/Age (Yrs)	1985/3	1979/9	1986/2	1942	1942	UNK	UNK	UNK	UNK	UNK
8	Active/Inact/Removed (A/I/Rem)	A	A	A	Rem-UNK	Rem-UNK	A	A	I	A	
9	Substance Use	Eme Gen	Heat	Heat	-	-	Stor	Wst Stor	Stor	Stor	Stor
B.	TANK DATA										
1	Above or Below Ground (A/B)	B	B	B	B	B	B	B	A	B	B
2	Capacity (gal)	300	500	2,000	3,000	1,000	1,436	5,740	1,600	600	6,000
3	Est. Diameter (ft)	3'-2"	3'-9"	UNK	-	-	-	-	5'-6"	-	8'-4"
4	Est. Length (ft)	5'-0"	6'-2"	UNK	-	-	'x3'-4"	4'x17'	9'-0"	-	16'-0"
5	Material of Construction	Steel	Steel	Fibrgl	Steel	Steel	Conc.	Conc.	StnSteel	Conc.	Steel
6	Internal Protection (Y/N/UNK)	N	N	N	-	-	N	N	N	N	UNK
7	External Protection (Y/N/UNK)	Y-Epxy	N	N	-	-	N	N	N	N	UNK
8	Cathodic Protection (Y/N)	N	N	N	-	-	N	N	N	N	N
9	Secondary Containment (Y/N)	N	N	N	-	-	N	N	Y/Vlt	N	N
10	Leak Detection (Y/N)	N	N	N	-	-	N	N	N	N	N
11	Gauges	N	N	N	-	-	N	N	Y	N	N
12	Overfill Protection (Y/N)	N	N	N	-	-	N	N	N	N	N
13	Leaks/Repairs (Y/N/#)	NR	NR	NR	-	-	NR	NR	NR	NR	NR
14	Water in Tank (in or N)	N	N	UNK	-	-	UNK	UNK	UNK	UNK	N
C.	PIPING DATA										
1	Above or Below Ground (A/B)	B	B	B	-	-	B	B	A	B	B
2	Material of Construction	Steel	Steel	Steel	-	-	Steel	Steel	StnSteel	StnSteel	Steel
3	Date of Installation	1985	1979	1986	-	-	UNK	UNK	UNK	UNK	UNK
4	Protection (Y/N)	N	N	N	-	-	N	N	N	N	Y
5	Secondary Contain. (Vlt-Vault)	N	N	N	-	-	Y/Vlt.	Y/Vlt.	N	N	N
6	System Design (gravity/pressure/suction)	Suct.	Suct.	Suct.	- -	- -	Grav.	Grav.	Grav.	Grav.	Suct.
7	Leaks/Repairs Since Install.	NR	NR	NR	-	-	NR	NR	NR	NR	NR
D.	ENVIRONMENTAL DATA	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand &	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel
1	Soil Type										
2	Est. Depth to G.W. (ft)	6-10	10-15	6-10	6-10	6-10	6-10	6-10	10-15	10-15	+20
3	Distance to Nearest Water Supply Well (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	Distance to Nearest Surface Water (ft) (M=Miles)	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500	500-.5M
E.	TANK TESTING CONDITIONS										
1	Access Ports (Dia/#)	2"/1	2"/1	3"/2	-	-	3"/1	3"/1	1"/1	2"/2	4"/1
	- Drop Tube (Y/N)	Y	Y	Y	-	-	N	N	UNK	UNK	N
	- Straight into Tank (Y/N)	Y	Y	N	-	-	Y	Y	Y	N	Y
2	No. of Manways	0	0	0	-	-	0	0	1	1	1
	- Diameter (in)	-	-	-	-	-	-	-	29"	18"	18"
	- Accessable (Y/N)	-	-	-	-	-	-	-	Y	Y	Y
3	Depth to Top of Tank	UNK	24"	UNK	-	-	N/A	N/A	N/A	N/A	36"
4	Power Supply w/n 100' (Y/N)	Y	Y	Y	-	-	Y	Y	Y	Y	Y

NUSC=Naval Underwater Systems Center NR=No Record

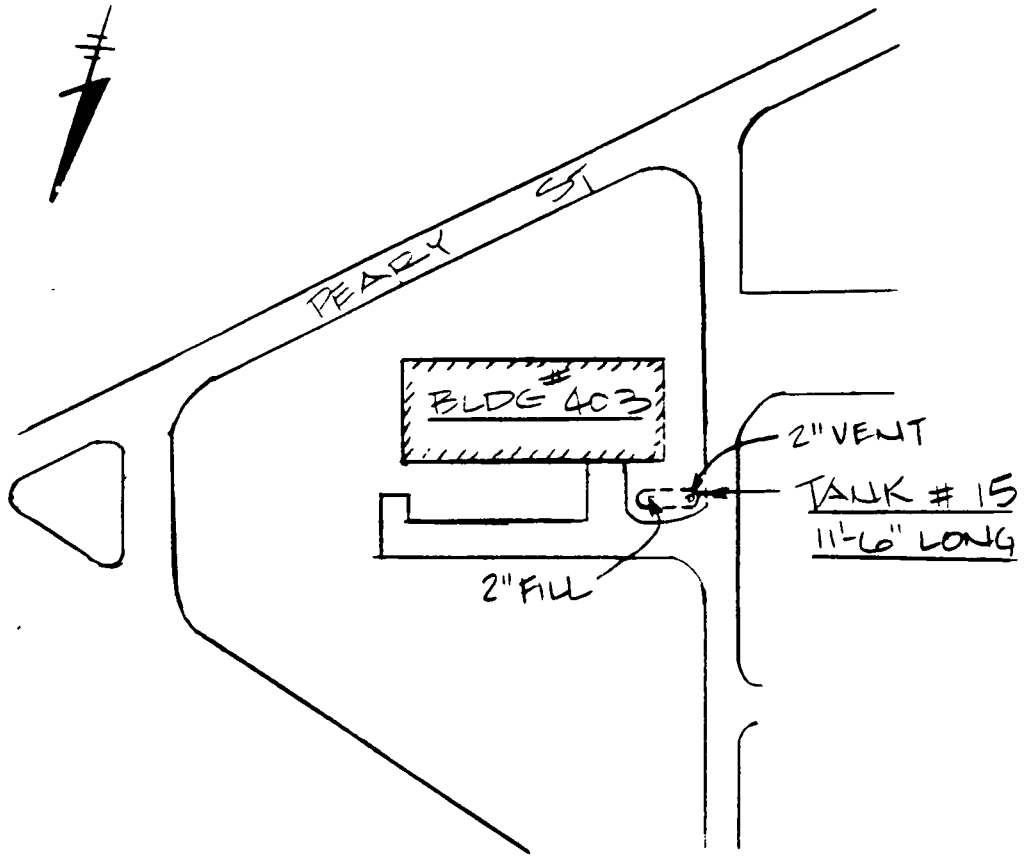
APPENDIX C - UNDERGROUND STORAGE TANK LOCATIONS (NETC and NUSC)



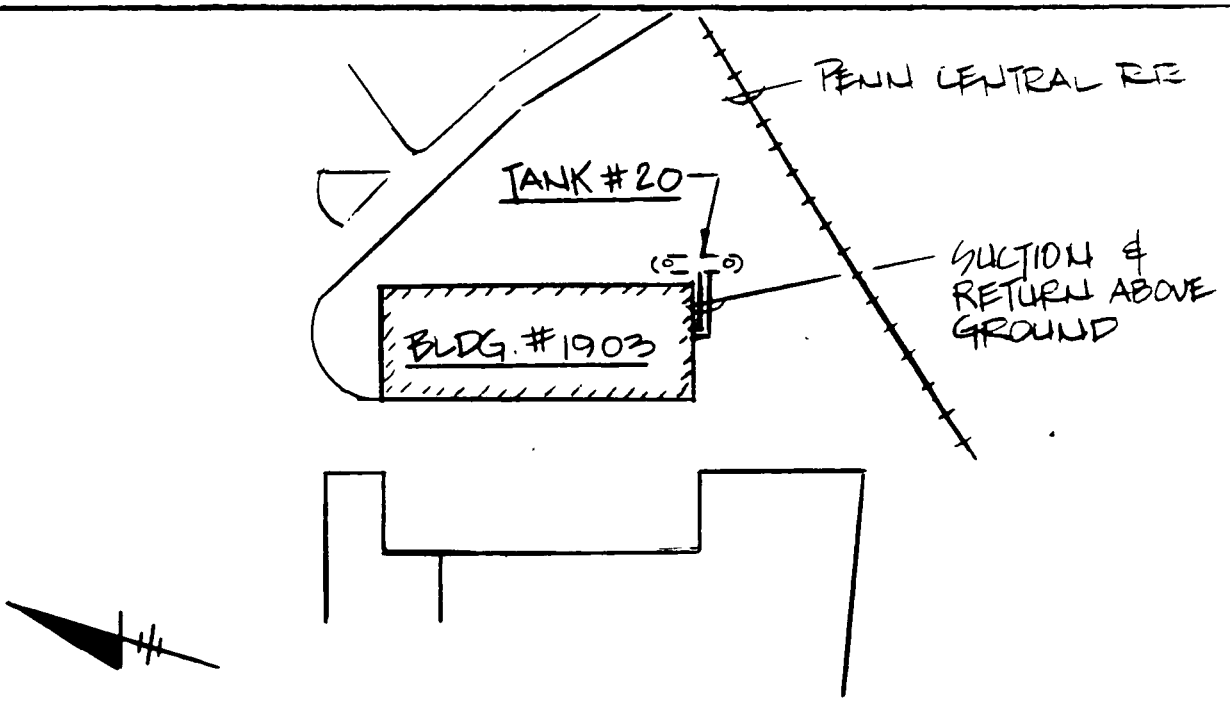


O'BRIEN & GERE ENGINEERS, INC BOSTON, MA	DEPARTMENT OF THE NAVY NAVAL EDUCATION TRAINING CENTER NEWPORT, RHODE ISLAND UNDERGROUND STORAGE TANK LOCATIONS	FILE NO 1862.014 DATE DEC. 1988 DWG NO 1

CODDINGTON COVE-TANKS NO. 1-6, 23-26, 73 & 74



NTS

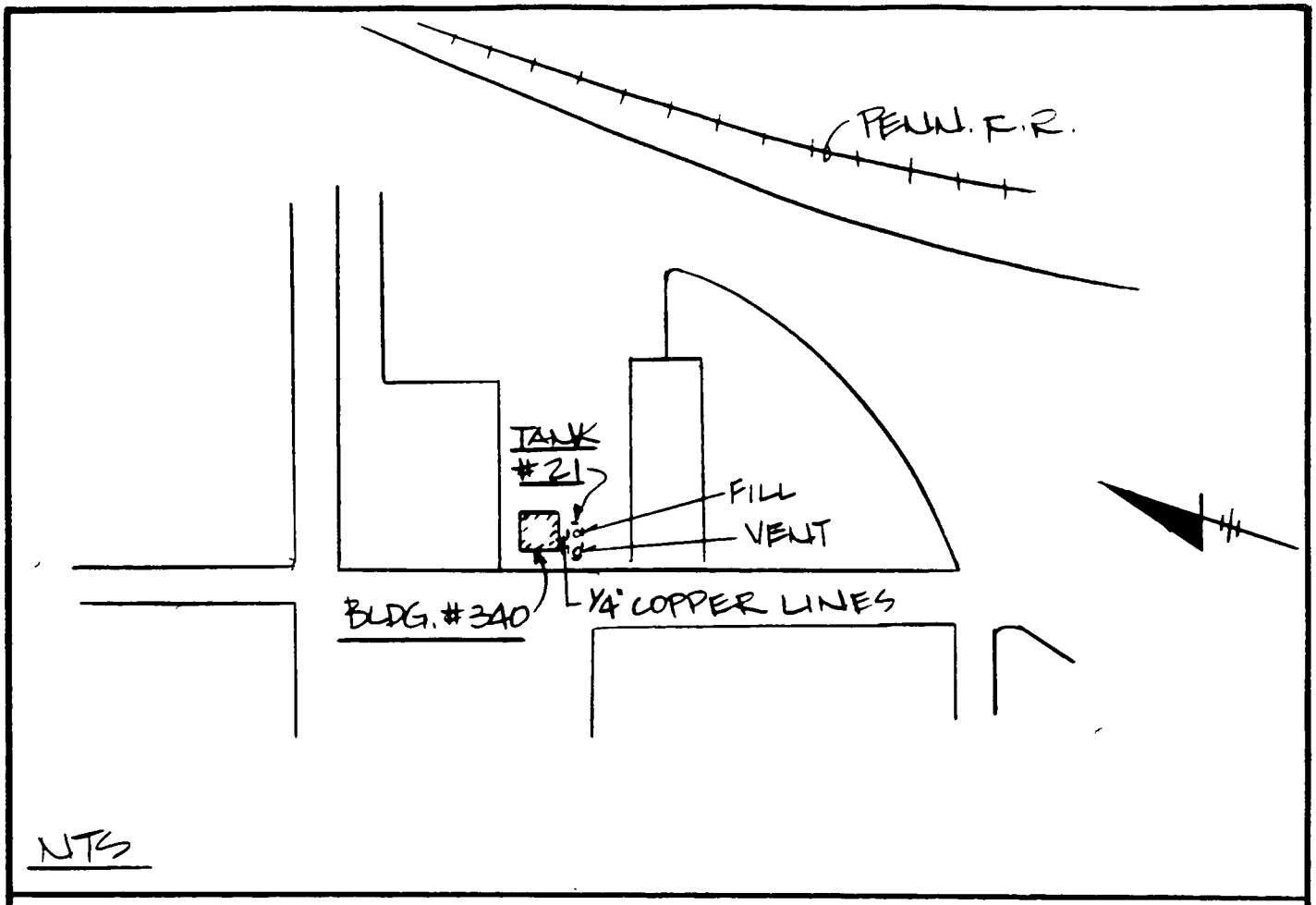


NTS

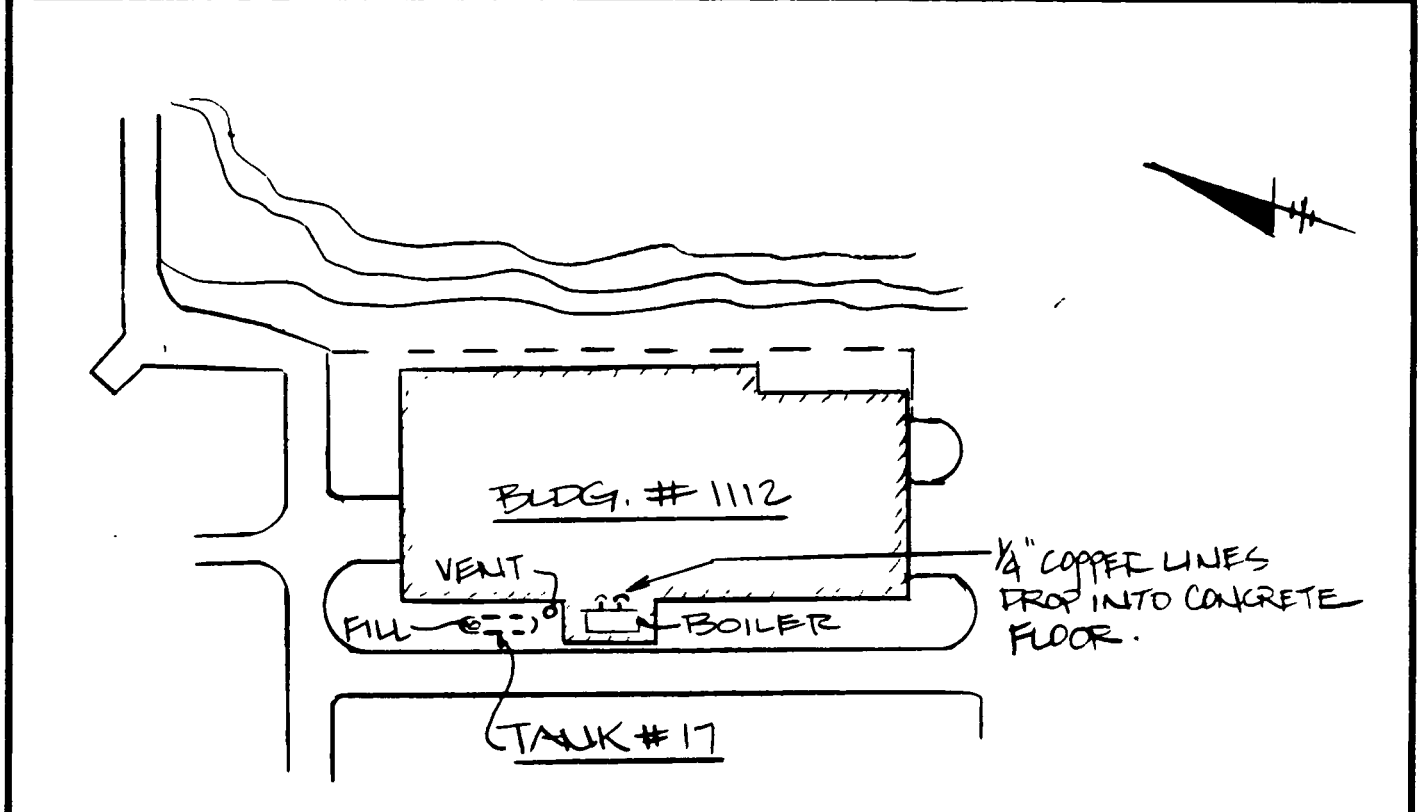
O'BRIEN & GERE ENGINEERS, INC
BOSTON, MA

DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER
NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK LOCATIONS
CODDINGTON COVE-TANKS NO 15 & 20

FILE NO 1862.014
DATE DEC. 1988
DWG NO 2

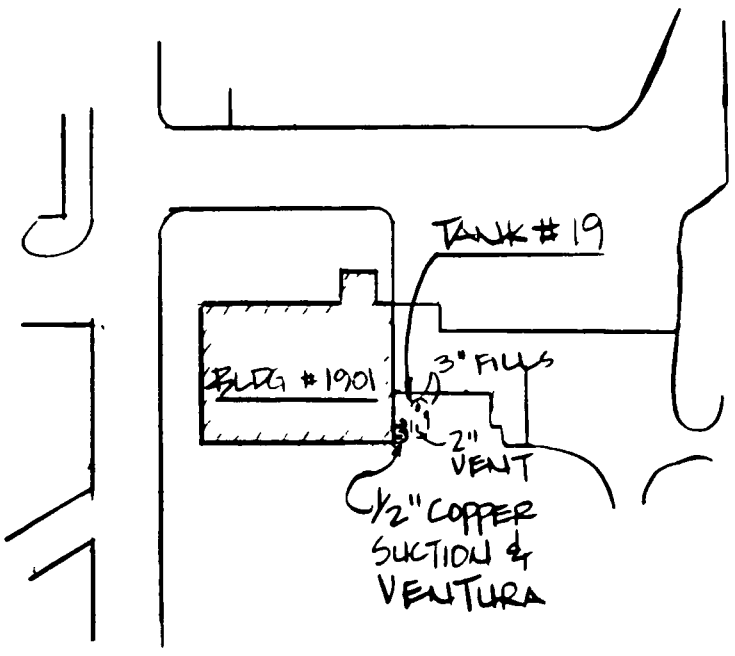


NTS

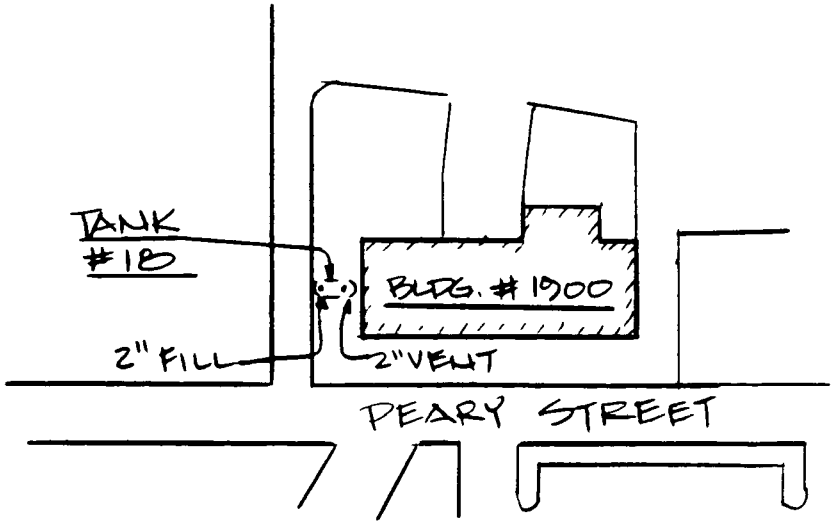


NTS

O'BRIEN & GERE ENGINEERS, INC BOSTON, MA	DEPARTMENT OF THE NAVY NAVAL EDUCATION TRAINING CENTER NEWPORT, RHODE ISLAND UNDERGROUND STORAGE TANK LOCATIONS CODDINGTON POINT-TANKS NO 17 & 21	FILE NO 1862.014 DATE DEC. 1988 DWG NO 3



NTS

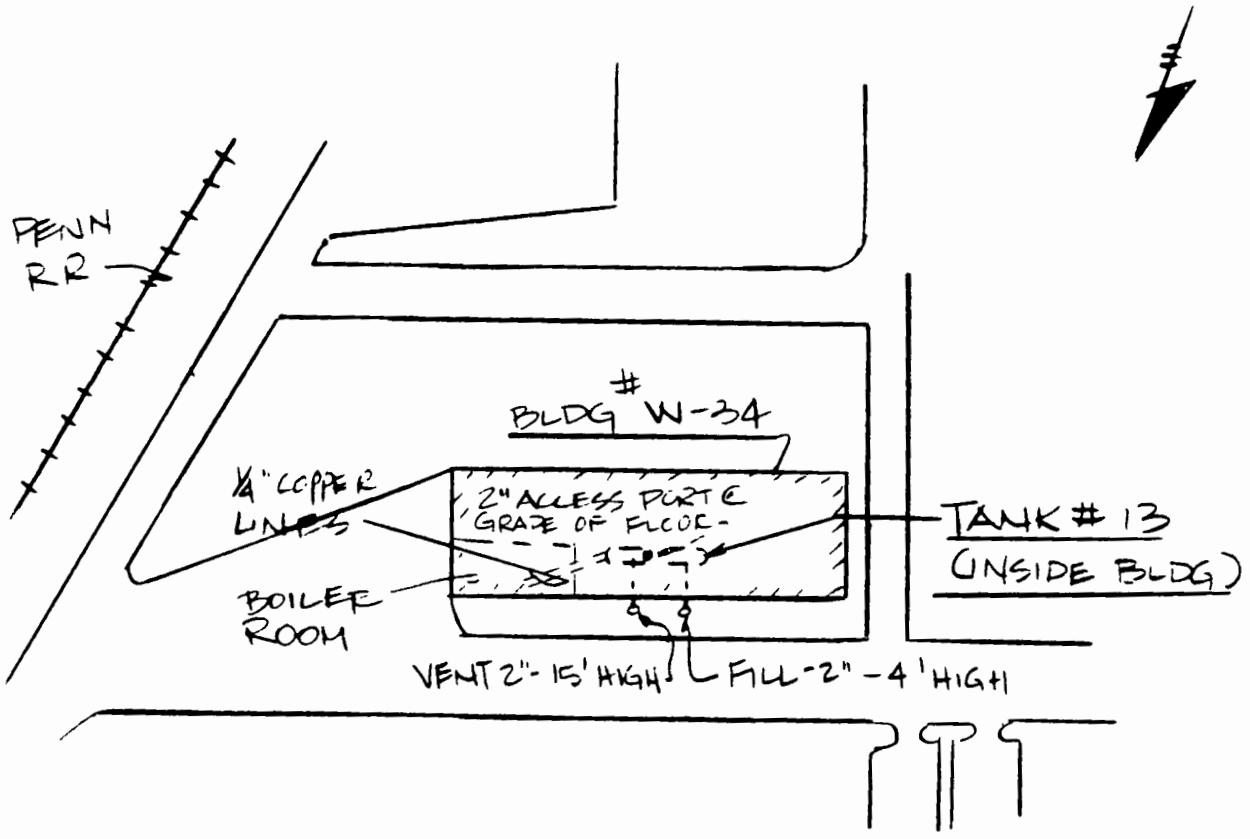


NTS

O'BRIEN & GERE ENGINEERS, INC
BOSTON, MA

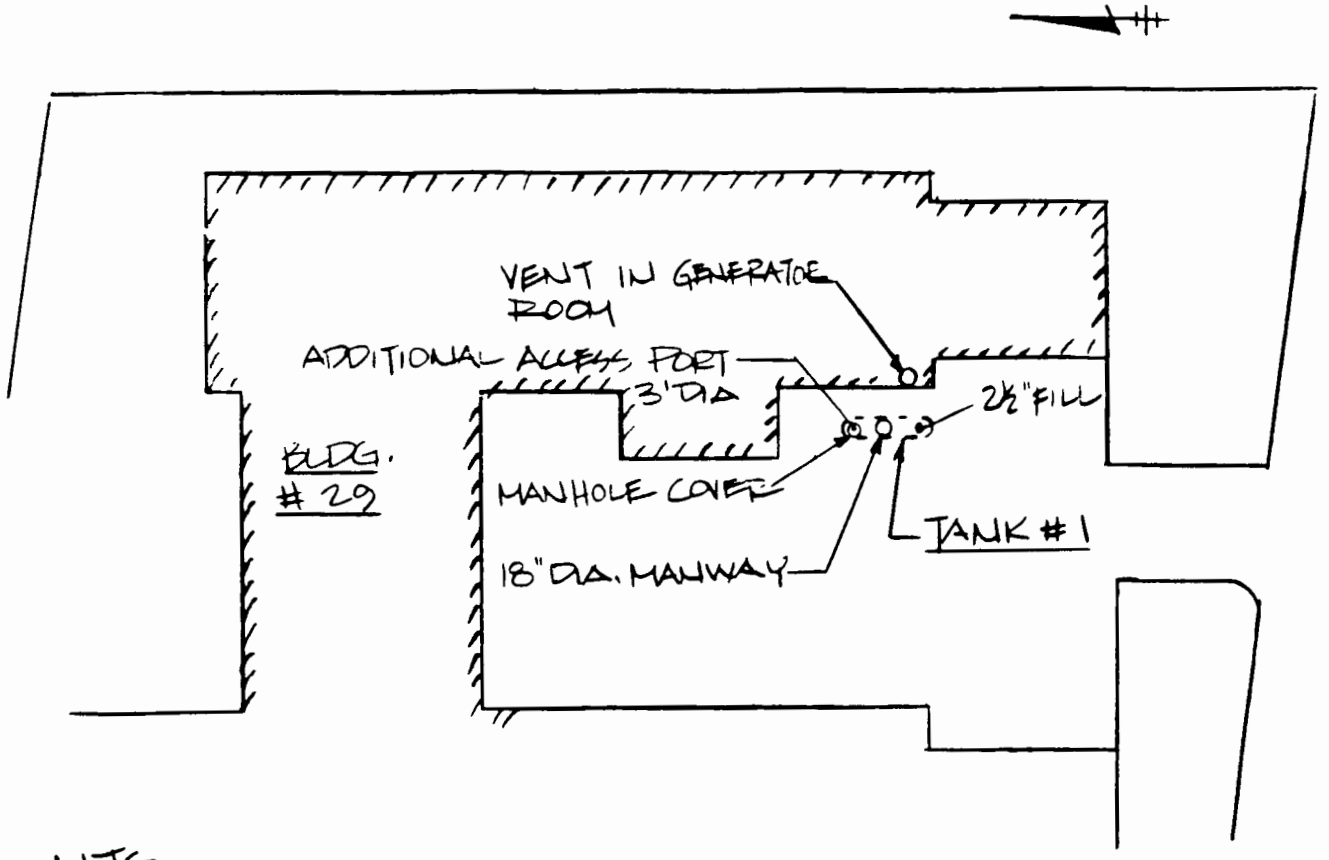
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER
NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK LOCATIONS
CODDINGTON POINT-TANKS NO. 18 & 19

FILE NO 1862.014
DATE DEC. 1988
DWG NO 4

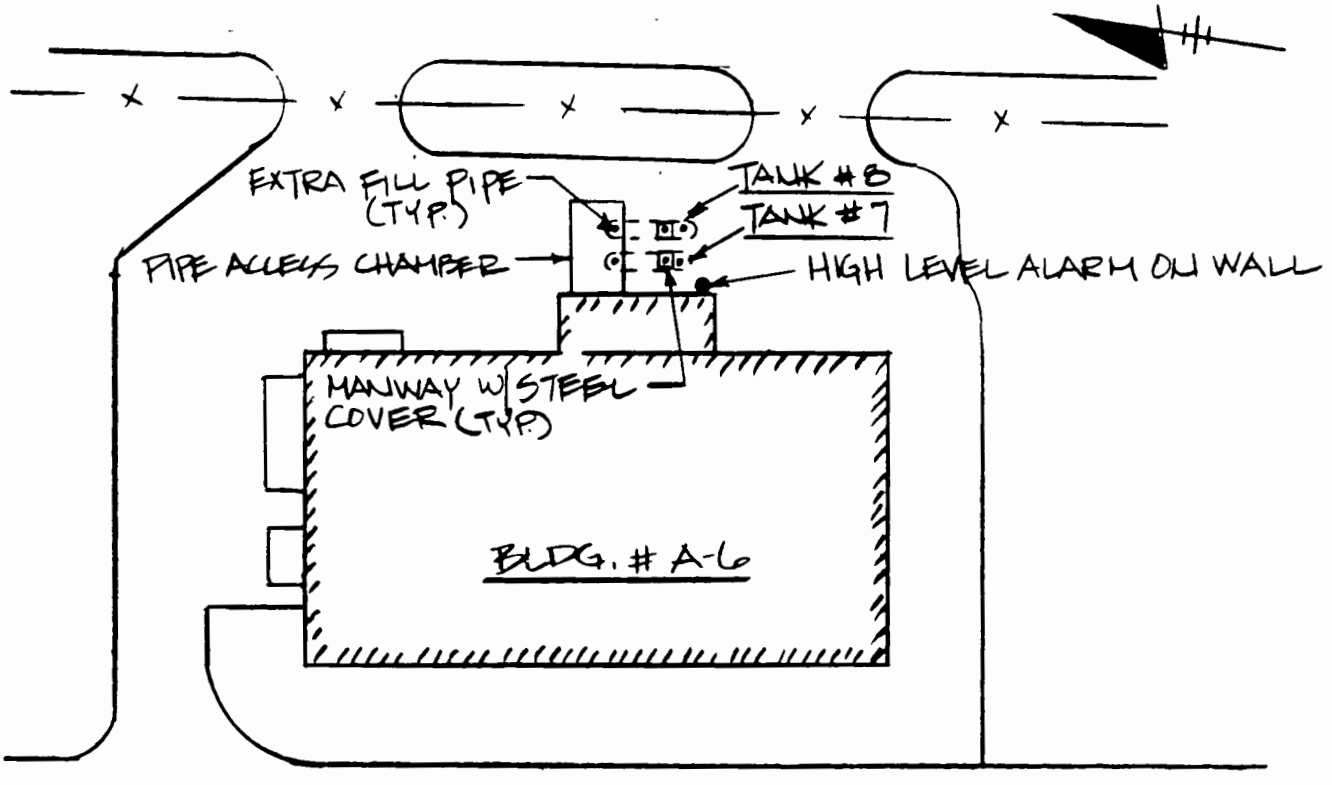


NTS

O'BRIEN & GERE ENGINEERS, INC BOSTON, MA	DEPARTMENT OF THE NAVY NAVAL EDUCATION TRAINING CENTER NEWPORT, RHODE ISLAND UNDERGROUND STORAGE TANK LOCATIONS CODDINGTON POINT-TANK NO. 13	FILE NO 1862.014 DATE DEC. 1988 DWG NO 5



NTS

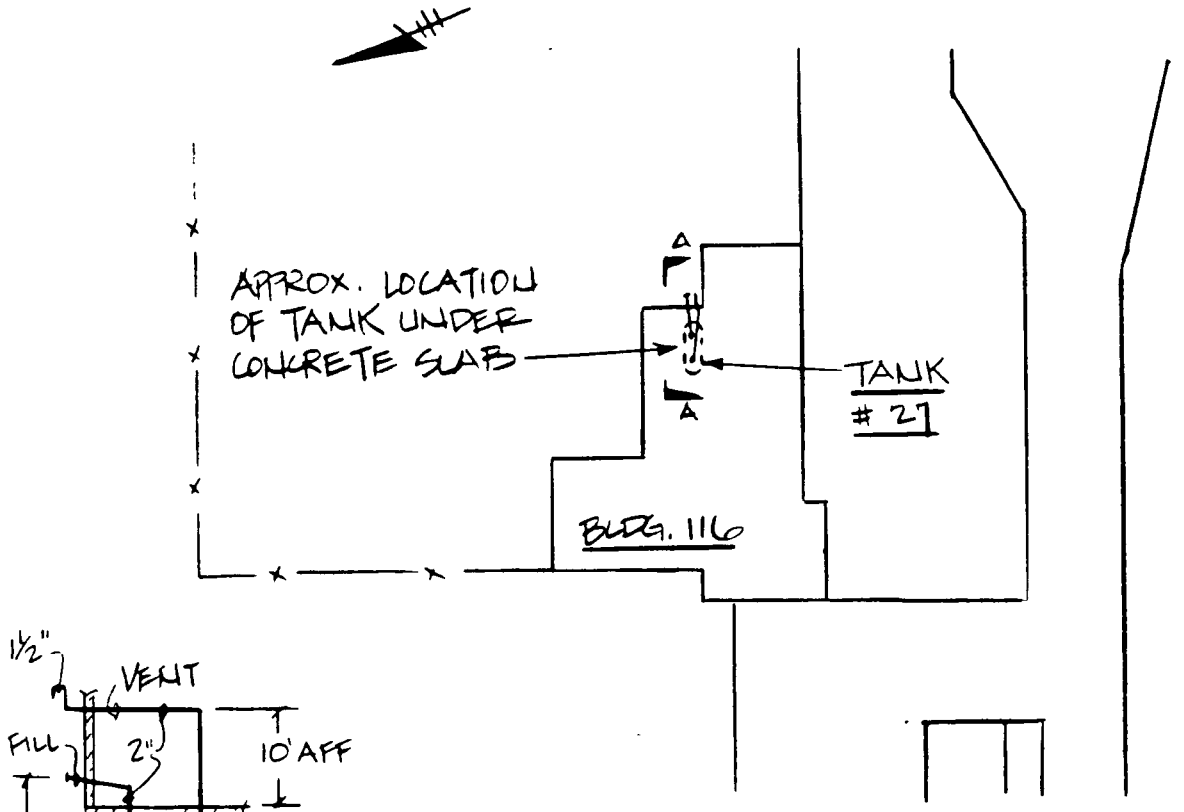


NTS

O'BRIEN & GERE ENGINEERS INC
BOSTON, MA

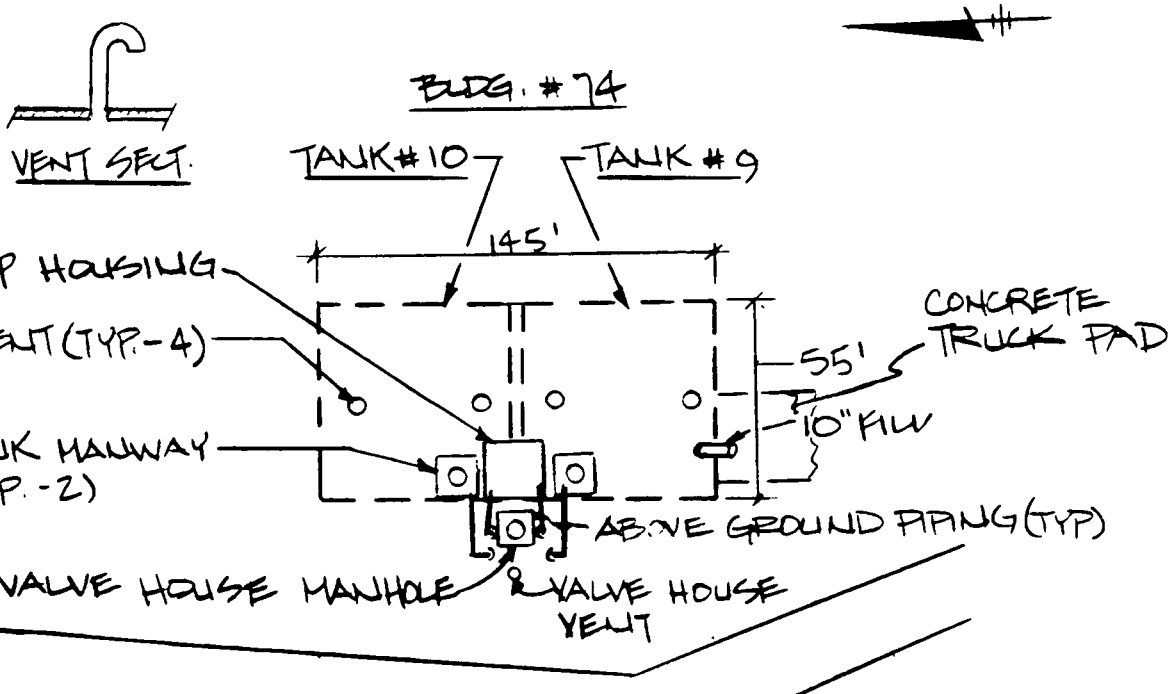
DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER
NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK LOCATIONS
COASTERS HARBOR ISLAND-TANKS NO. 1, 7 & 8

FILE NO 1862.014
DATE DEC. 1988
DWG NO 6



SECT. A

NTS

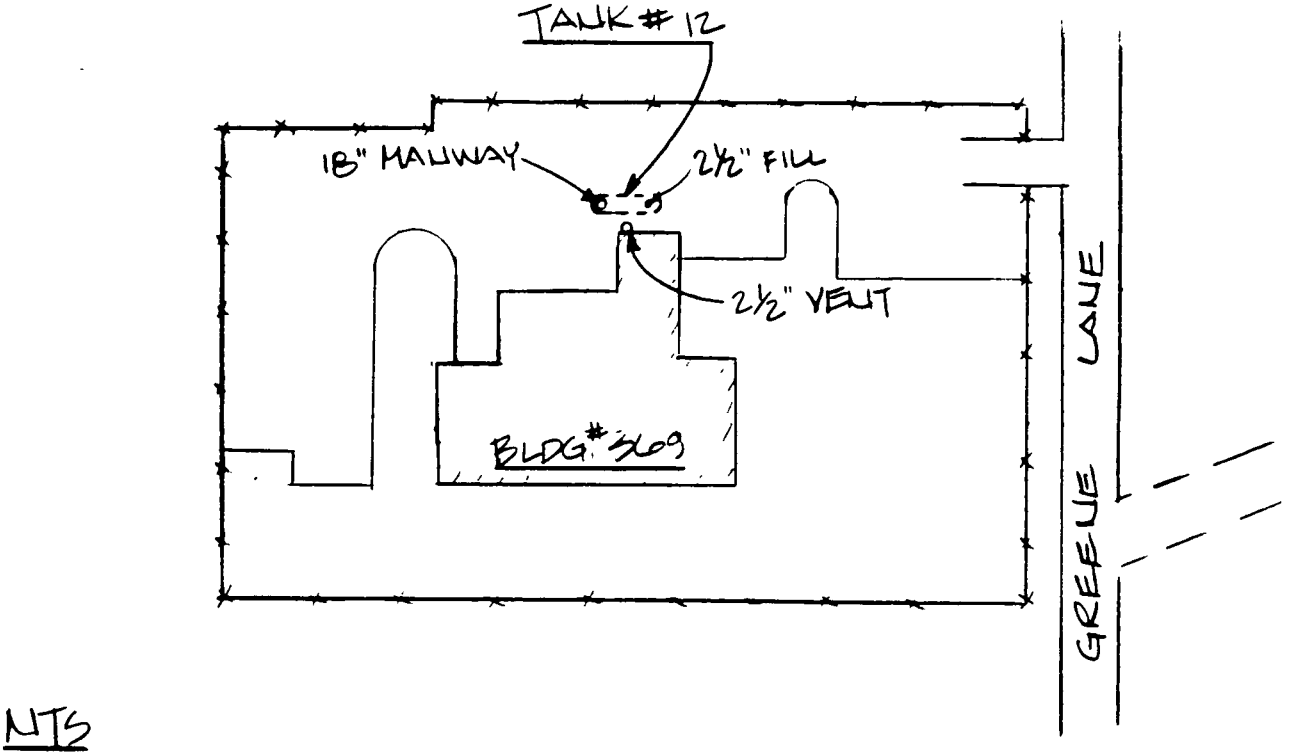


NTS

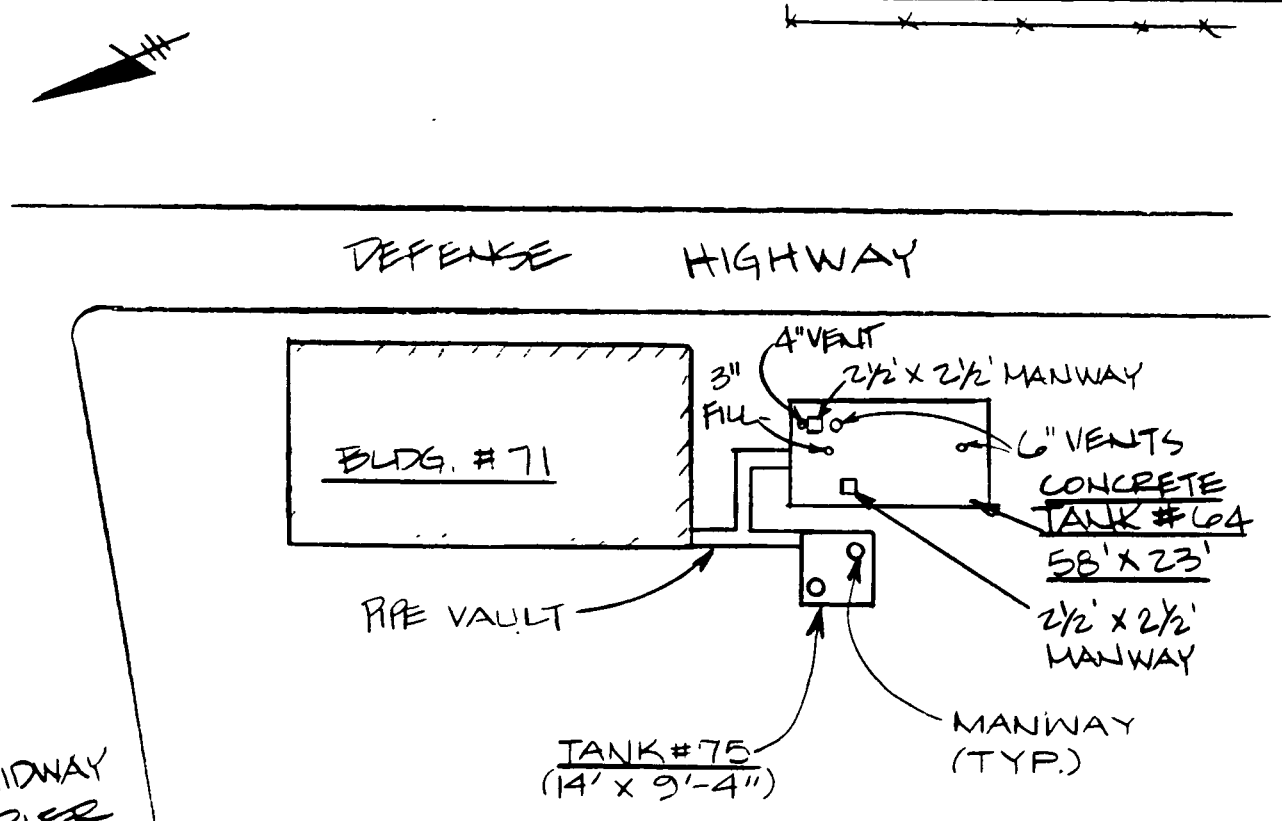
O'BRIEN & GERE ENGINEERS, INC
BOSTON, MA

DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER
NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK LOCATIONS
COASTERS HARBOR ISLAND-TANKS NO. 9, 10 & 27

FILE NO 1862.014
DATE DEC. 1988
DWG NO 7



NTS

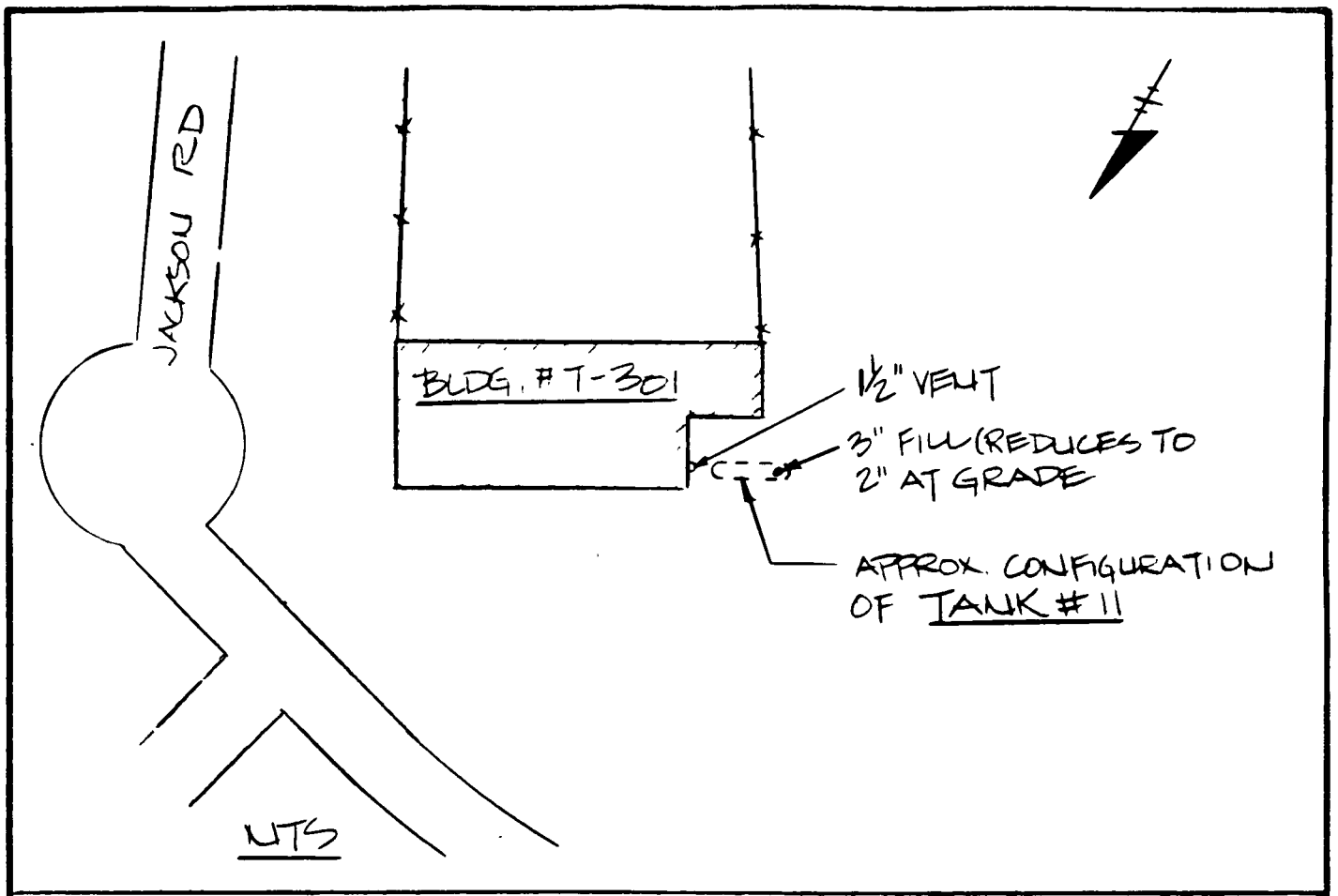


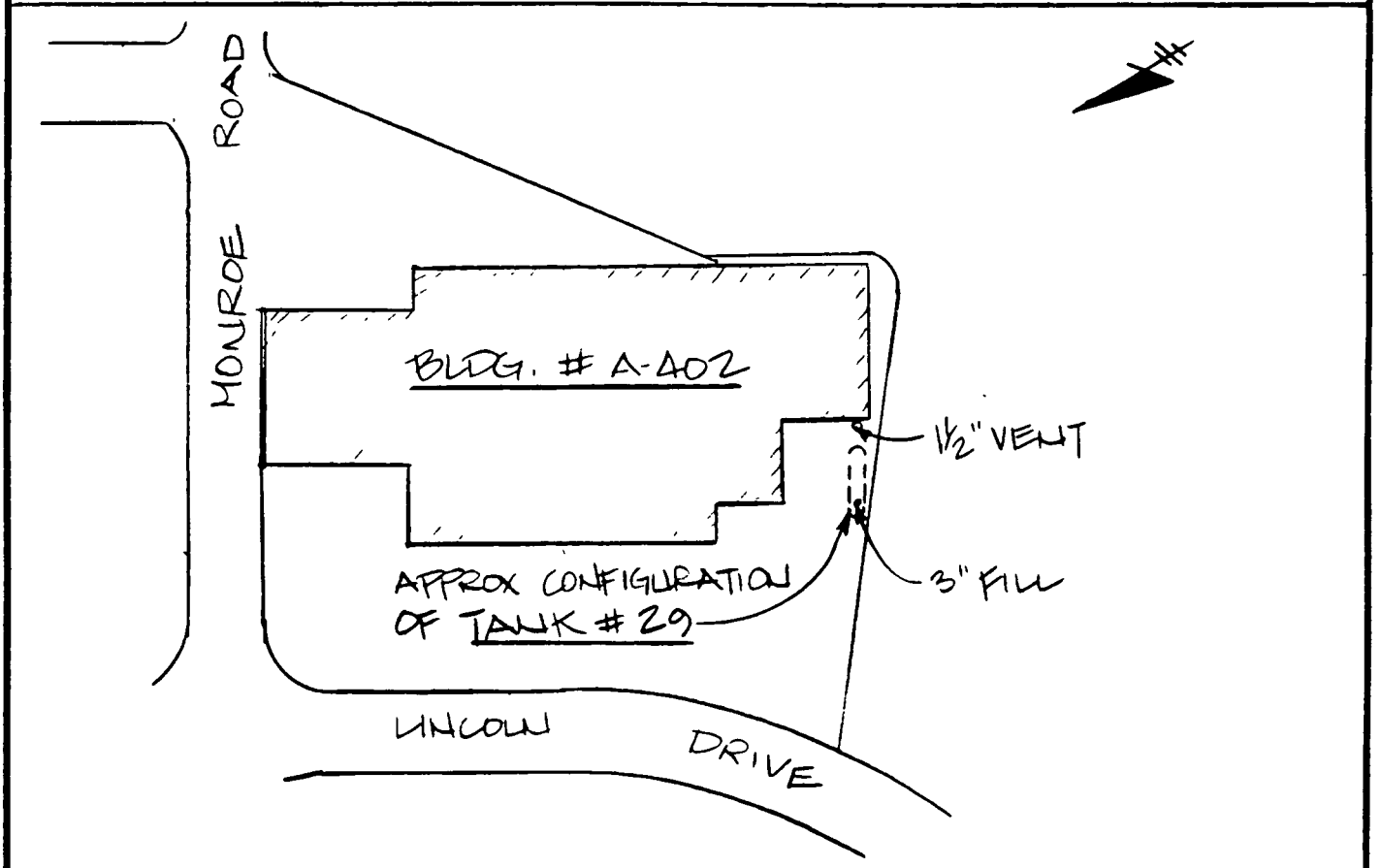
NTS

O'BRIEN & GERE ENGINEERS, INC
BOSTON, MA

DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER
NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK LOCATIONS
MIDWAY-TANKS NO. 12, 64 & 75

FILE NO 1862.014
DATE DEC. 1988
DWG NO 8

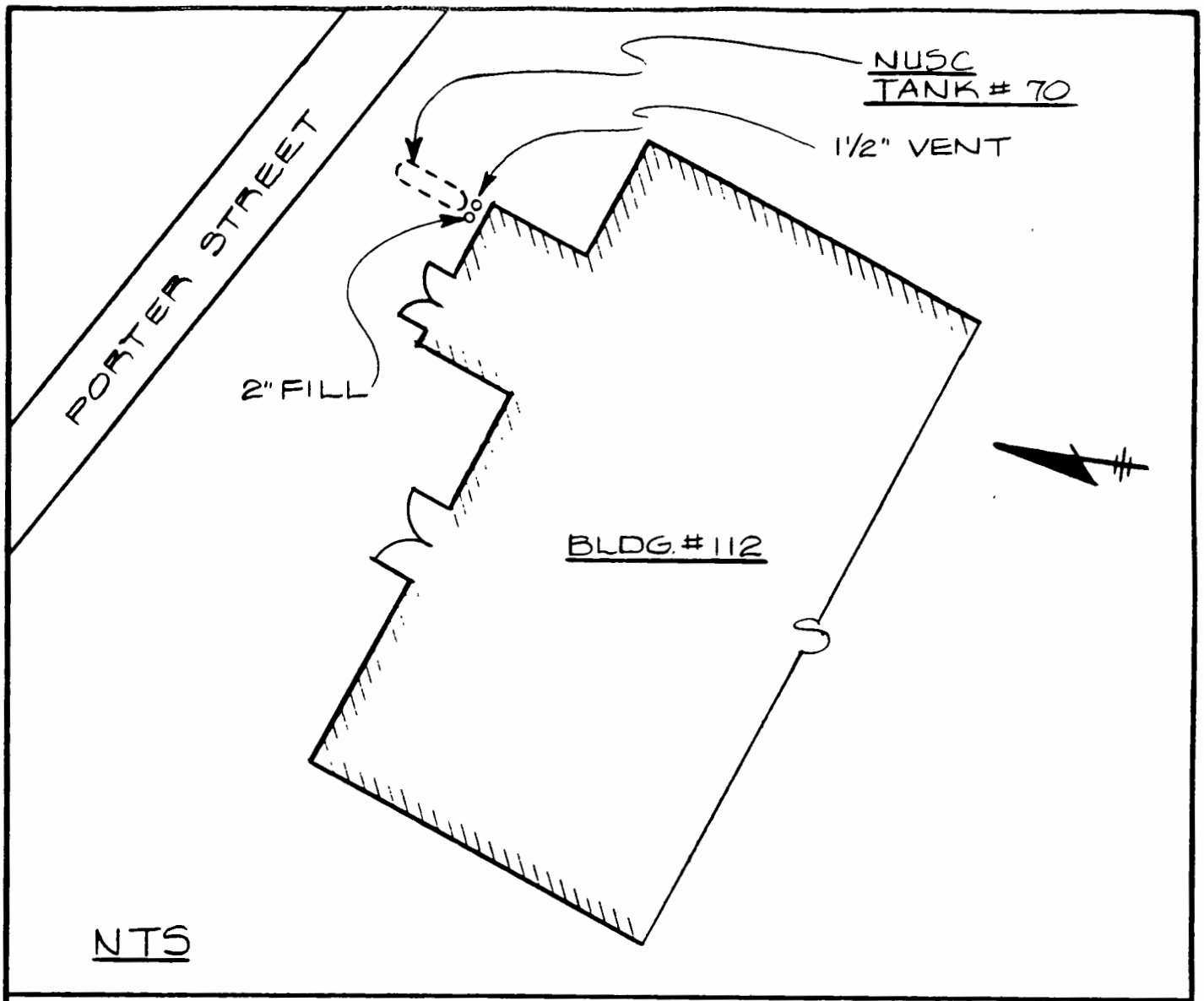


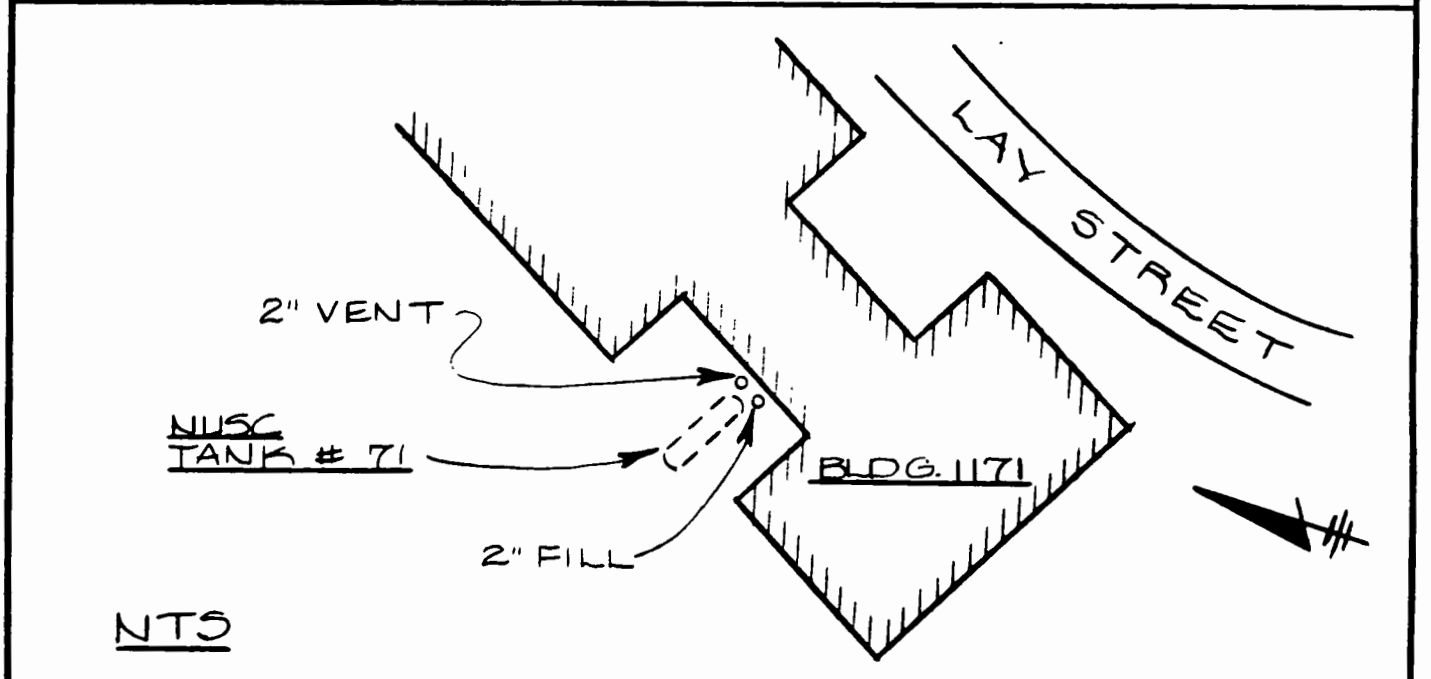


O'BRIEN & GERE ENGINEERS INC
BOSTON, MA

DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER
NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK LOCATIONS
FORT ADAMS-TANKS NO 11 & 29

FILE NO 1662.014
DATE DEC. 1988
DWG NO 9

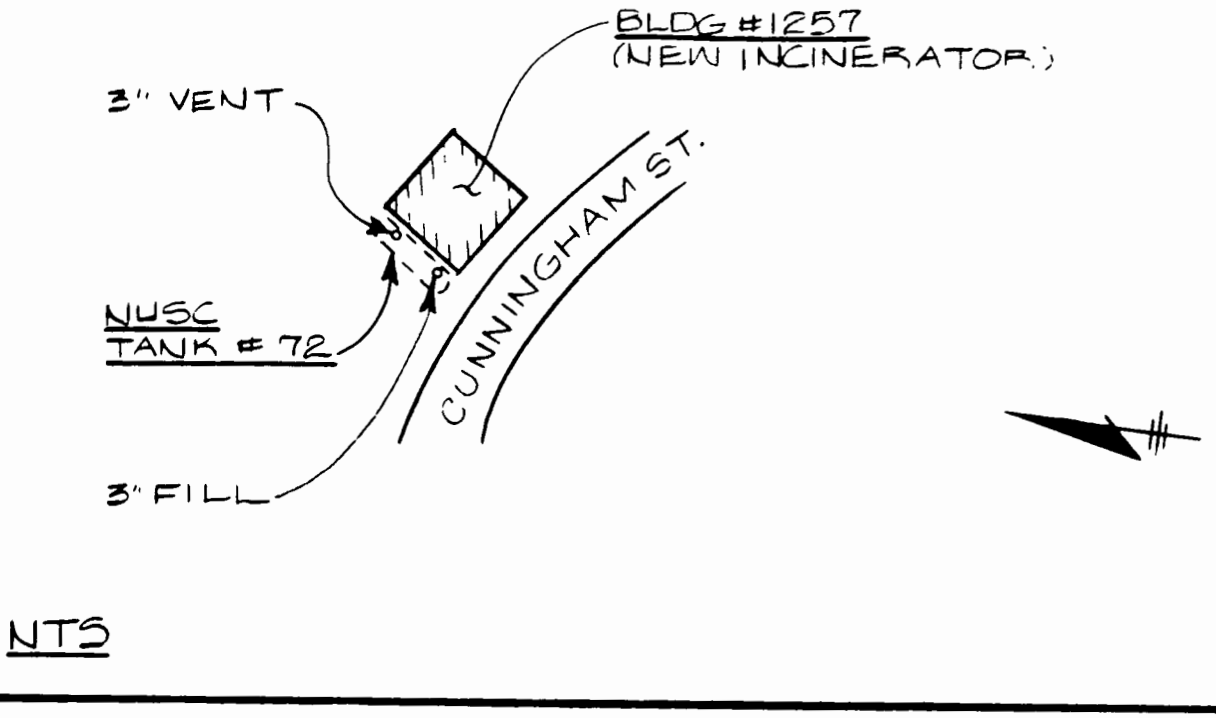




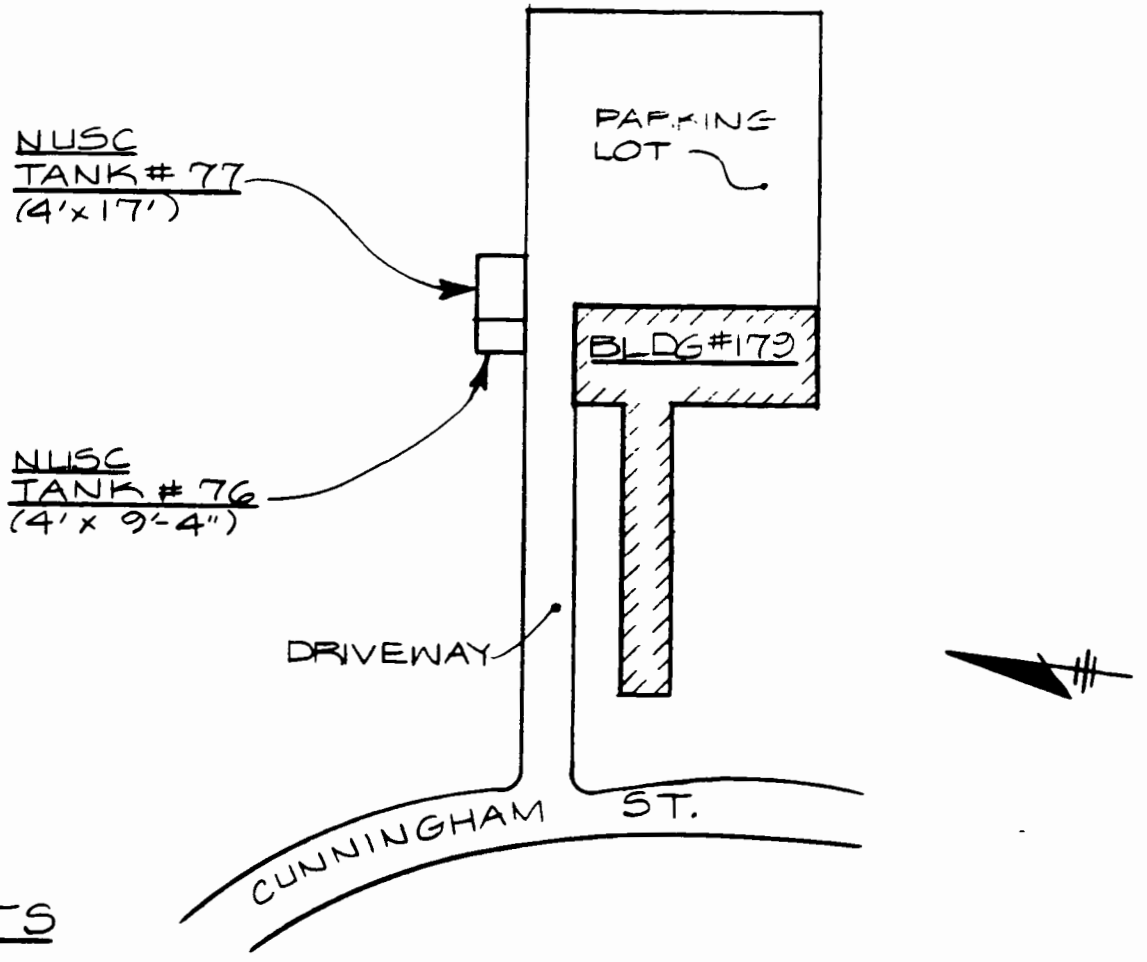
O'BRIEN & GERE
ENGINEERS, INC
BOSTON, MA

DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER
NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK LOCATIONS
NUSC-TANKS NO. 70 & 71

FILE NO 1862.014
DATE DEC. 1988
DWG NO 10



NTS

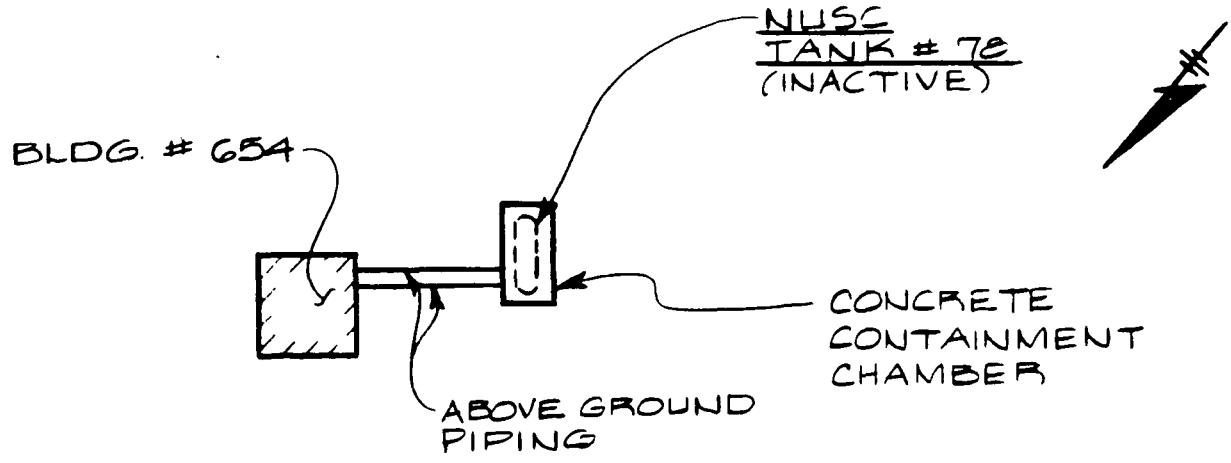


NTS

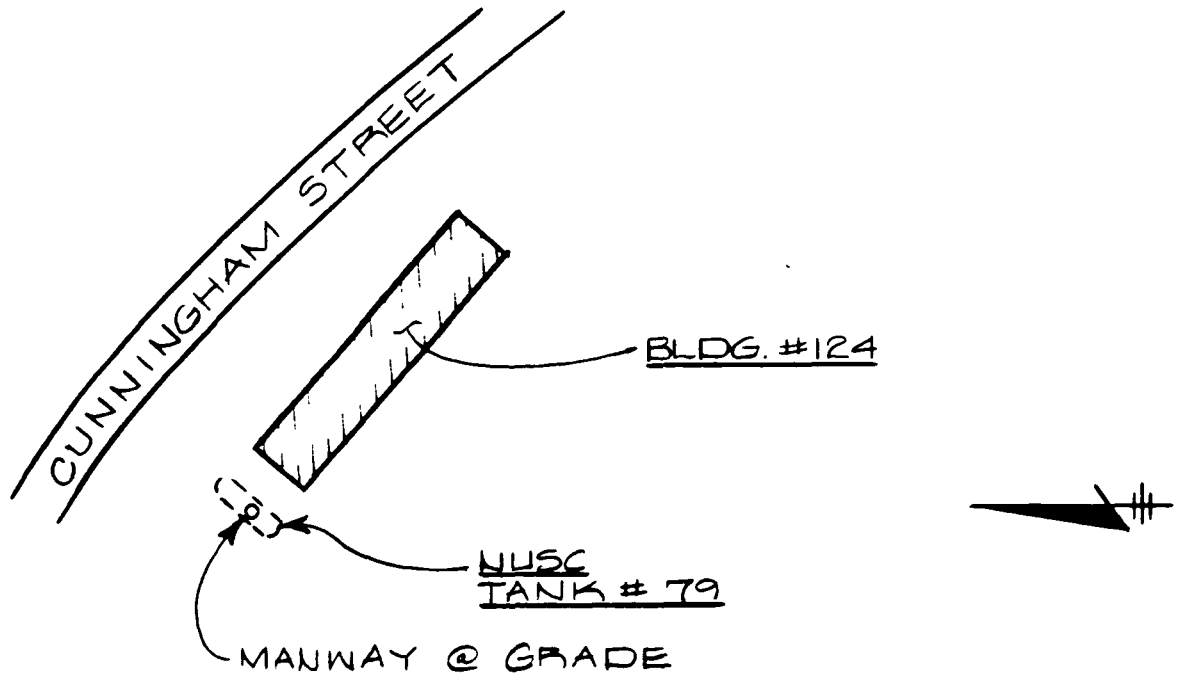
O'BRIEN & GERE
ENGINEERS, INC
BOSTON, MA

DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER
NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK LOCATIONS
NUSC-TANKS NO. 72, 76 & 77

FILE NO 1862.014
DATE DEC. 1988
DWG NO 11



NTS

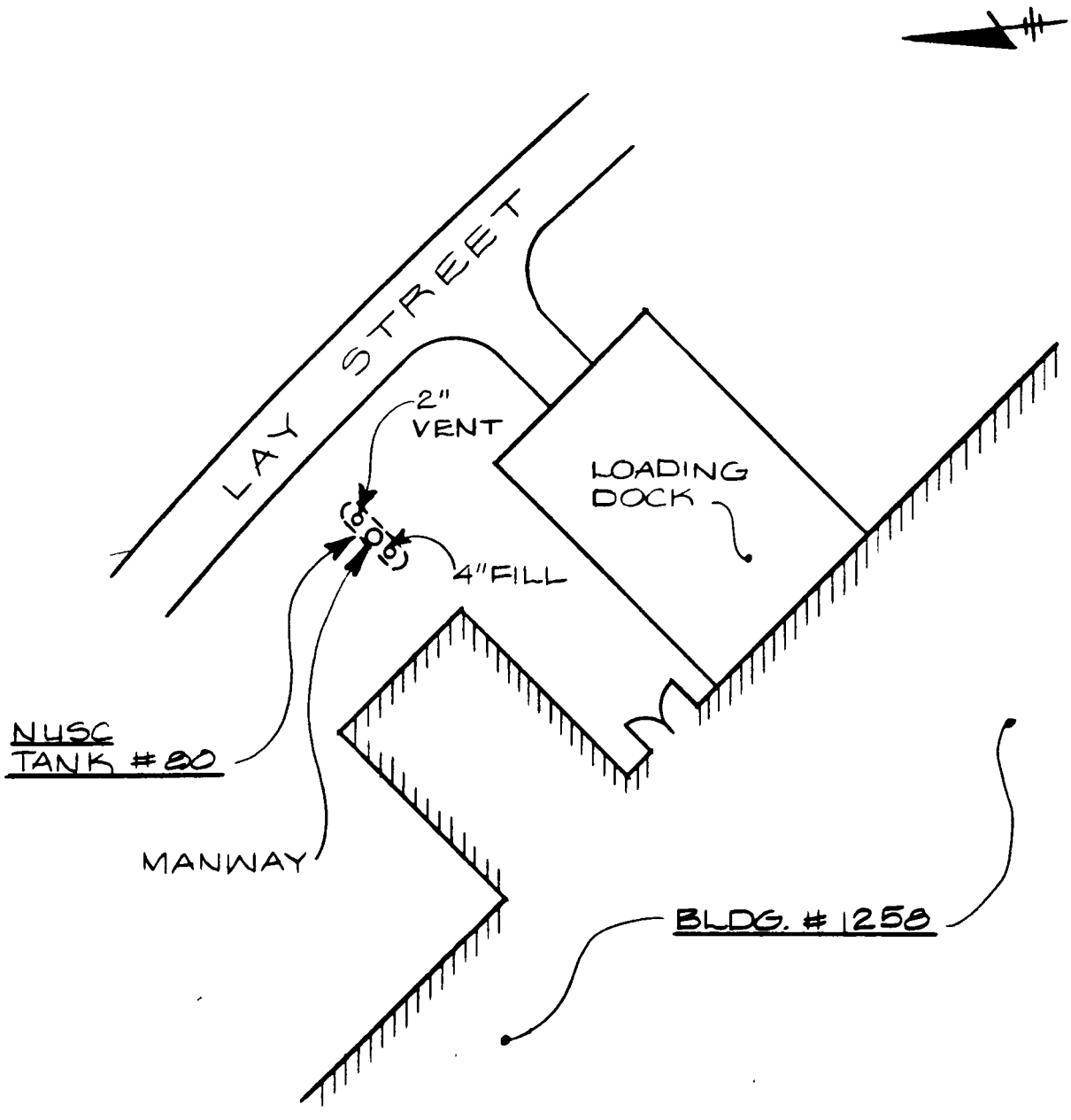


NTS

O'BRIEN & GERE
ENGINEERS, INC
BOSTON, MA

DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER
NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK LOCATIONS
NUSC - TANKS NO. 78 &79

FILE NO 1862.014
DATE DEC. 1988
DWG NO 12

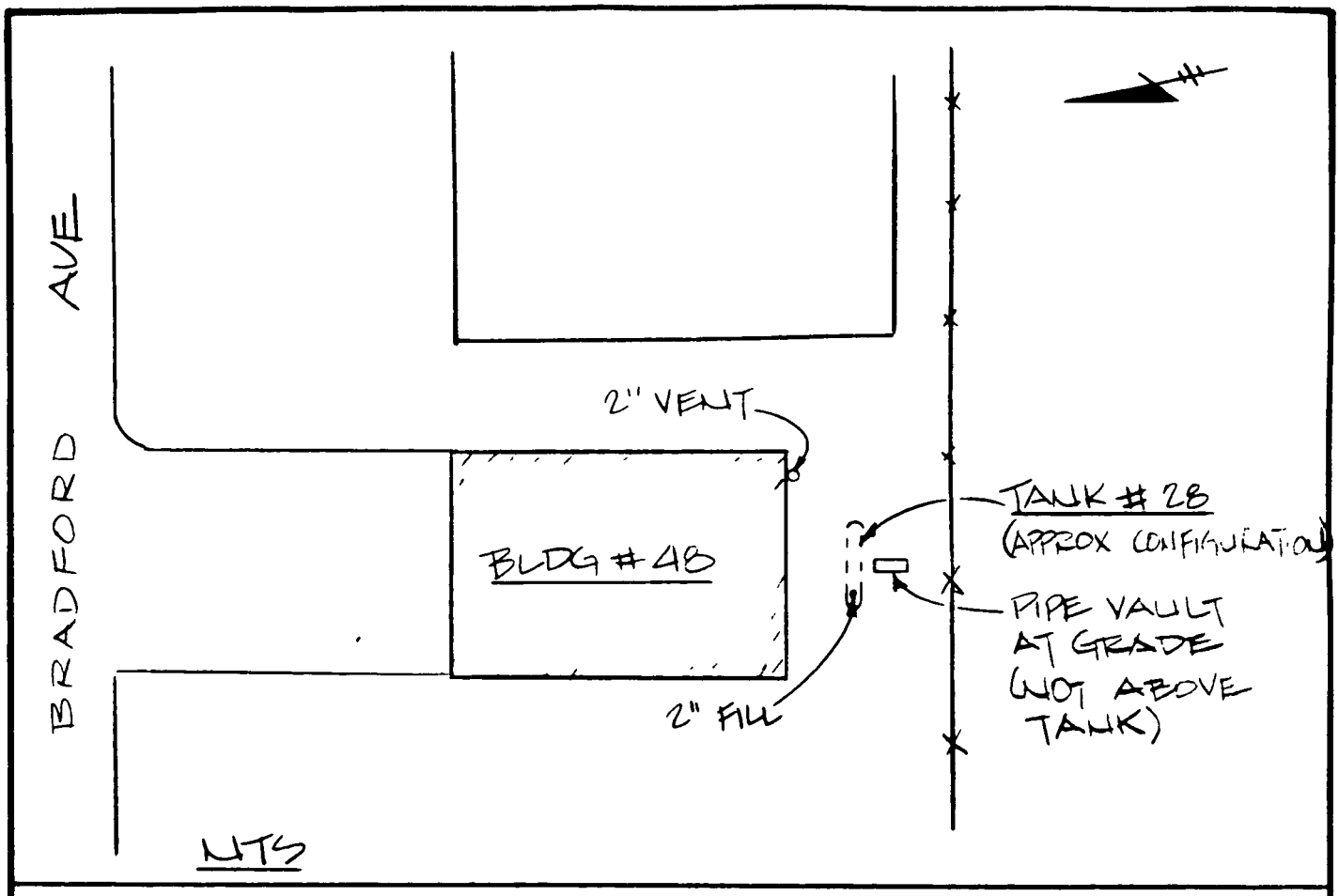


NTS

O'BRIEN & GERE ENGINEERS INC
BOSTON, MA

DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER
NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK LOCATIONS
NUSC-TANK NO. 80

FILE NO 1862.014
DATE DEC. 1988
DWG NO 13



O'BRIEN & GERE ENGINEERS, INC
BOSTON, MA

DEPARTMENT OF THE NAVY
NAVAL EDUCATION TRAINING CENTER
NEWPORT, RHODE ISLAND
UNDERGROUND STORAGE TANK LOCATIONS
MELVILLE-TANK NO. 28

FILE NO	1862.014
DATE	DEC. 1988
DWG NO	14